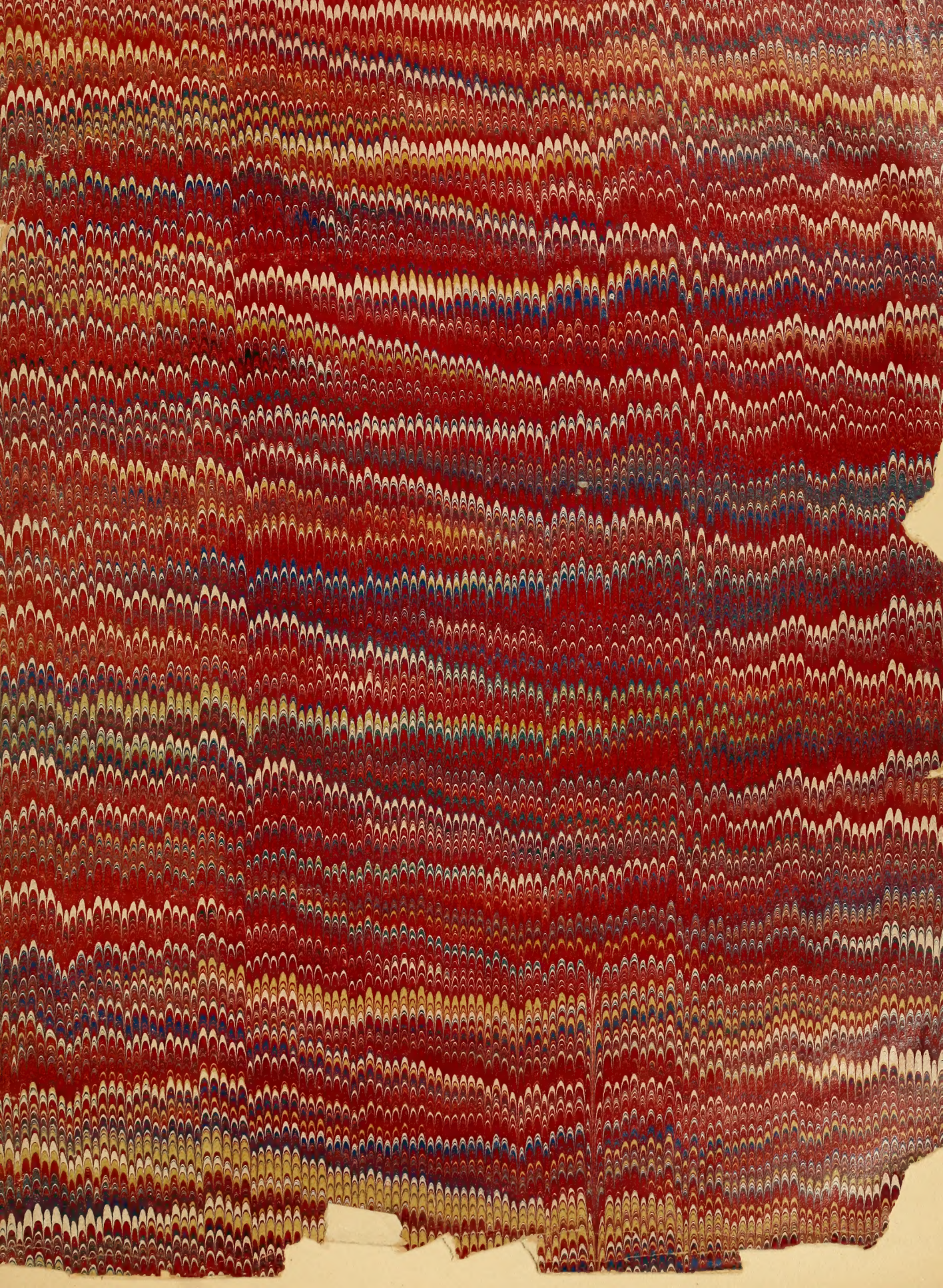




The OPERATOR

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A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY.

Vol. X.

NEW YORK, JANUARY 1, 1879.

No. 1

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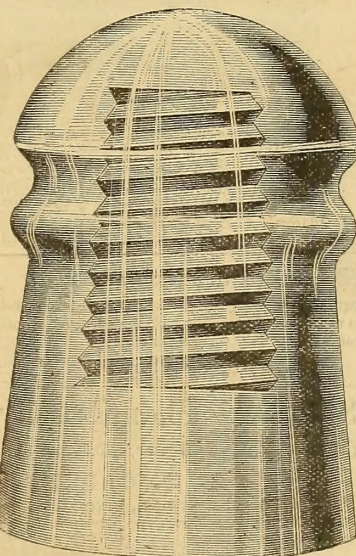
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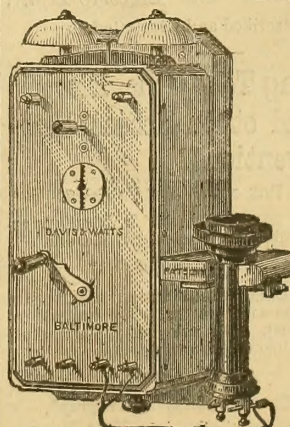
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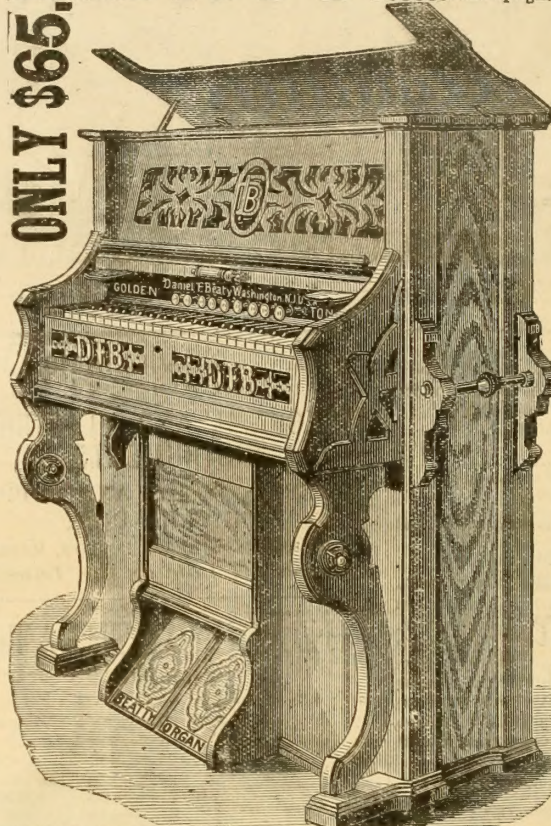
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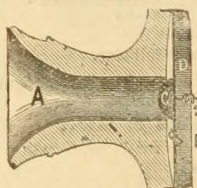
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THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

January 1st, 1879.

Volume X.

Whole No. 117.

Old Man Burke.

(After Trowbridge.)

BY G. PALMER BARNES.

In Boston Town works old man Burke,
The veteran of the place,
With his rosy, cheery face,
Calling and sending, east and west,
Working all day with little rest,
At a rattling, rushing pace—
Jolly old timer's pace,
He shakes the key at his side and smiles,
As he waits the fluid over the miles—
Smiles as he muses, e'en smiles at his trials,
Much work and little pay,
"You see how I work," says old man Burke—
"You see how I work to-day."

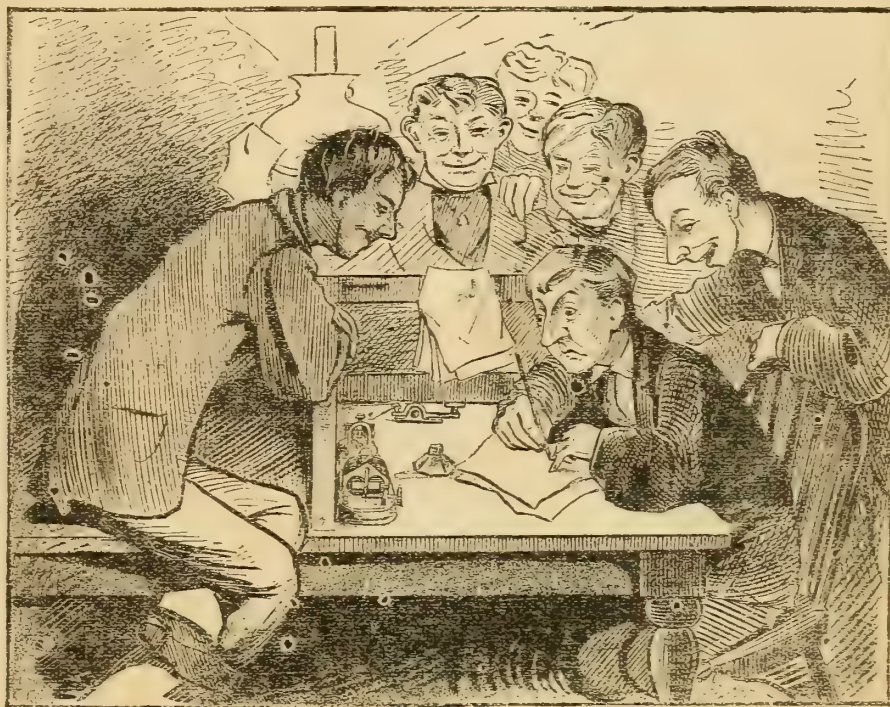
"I commenced the biz when a little kid,
Carrying messages to and fro—
With many a kick and blow!
Telegraphing to me was a golden mine,
And every chance on number nine
I would practice very slow—
Extremely plain and slow.
My hopes beat high, I danced in glee;
As a Captain delights in his argosy:
When I mastered the letters from — to — —
Ah the happy day!
Now see me work," boasts old man Burke,
"Just see me work to-day!"

"The tick of the sounder leaps thro' my brain,
As messages come and go,
Telling tales of joy and woe!
For two decades I have heard its ring.
My heart leaps back like a bird on the wing,
To the days of long ago—
Ah, many days ago!
When the work was fair, and the salary good,
When promotion came to those it should,
When I whistled as free as a bird in the wood,
All through the summer day.
Now see how I work," sighs old man Burke—
"Only see how I work to-day."
"The lovely girl I made my wife,
The little ones God has sent:
With their love I feel content,
And I strive my best to get along,
But still it is the same old song:
No money to pay the rent—
The greedy old landlord's rent.
Fifty dollars is little gain,
For a month's hard work, and a weary brain!
But good wages will come some day again,
That's what the boys all say.
I don't hurry the work," grins old man Burke—
"I don't hurry the work to-day."

There's more than one like old man Burke,
Who sing a song of complaint;
Of the work, pay, and restraint,
Why should they toil the livelong day,
Is there any reward, if no delay?
The chances are very faint—
Rewards are very faint.
All the stockholders care is to feed their greed,
They give little thought about the comforts we need
'Twould be a very good company indeed,
If they'd only increase the pay.
"Only pay for the work," sighs old man Burke—
"Only pay for the work to-day."

"Hazing a Freshman."

The subject of "Hazing" in our various colleges, is one that has received more or less comment from nearly every paper in the Union, and has been unanimously denounced as a disgrace to our famous institutions. The process known as "hazing" frequently subjects the "Freshman" to the most intense physical torture, and yet seems to produce the greatest merriment for those who have the victim in charge. Did it ever occur to an operator that we have "hazing" among ourselves? Most of us have been victims. Although, physically, we may have suffered comparatively little, yet the mental agony that a "Freshman" operator is frequently forced to



"HAZING A FRESHMAN."

endure is pitiful in the extreme. He walks into an office full of strange faces, not a friendly hand to shake, with nothing to recommend him but his ability as an operator, and his implicit confidence in that ability for his only encouragement. He hardly enters the office before that telegrapher's "devil," the messenger boy, remarks to a comrade: "Jimmy, stab de tile on dat bloat," which, translated, is understood to call the comrade's attention to the peculiar style of hat which happens to adorn the head of the "Freshman." This does not have any great tendency to create a feeling of encouragement in the breast of the "Freshman," and the smiling glances from the operators do not serve to lighten his heart to any extent. He approaches the manager's desk, and after five or ten minutes more of agony to the "Freshman," the manager condescends to glance upward, and in a tone full of thunder, bluntly inquires, "Well, sir, what is it?" The "Freshman" states his business, and the manager proposes to give him a trial. Accordingly, he is assigned to an instrument, and told that he is to "receive a special." His feelings at this juncture are about the same as those supposed to be experienced by a man who is about to be hung. Nervously grasping the pen, he begins to copy, the perspiration trickles down his hand, which makes that member adhere to the blank, his pen sticks fast, the ink is the thickest ever encountered, and there is nothing left for him but to break. Casting a guilty glance about him to see if any one is looking, he reaches for the key and explains to the sender that he is a new man—"please take it steady;" but this only makes matters worse. The sender begins to "whoop 'em up," and as the cold chills run down his spinal column, the "Freshman's" pen indites characters upon the blank resembling the Chinese hieroglyphics on a tea box. This torture usually occupies about half an hour, when the welcome "n m" falls soothingly upon his ear. He breathes a sigh of relief, and looks about him. Behind him stand half a dozen operators, whose grinning countenances would convey the impression that they were about to explode from the effects of something exceedingly ludicrous. A couple of messengers in the crowd also betray the idea that something unusually amusing has occurred. In a moment, light begins to dawn upon the "Freshman"—he is the victim of a joke. A glance in another direction discloses the fact that the most rapid sender in the office has been transmitting to him from the columns of a daily paper, for the amusement of the "boys." If he accepts the situation as a joke he is initiated, but if he becomes angered, he is still a "Freshman."

The Resistance of Beer.

At this festive season of the year a large number of persons get very—that is to say, they go home very late and commence the new year by coming to work shamefully behind time in the morning, with extremely red eyes, highly-polished vermilion noses, and wearing a borrowed hat, which, although it seems to fit remarkably well then, would on ordinary occasions be four sizes too large. Successive generations of temperance men have preached in vain for centuries against this demoralizing custom; but there is no reason now why electrical science, with all its vast storehouses of knowledge and its teeming brains, should not come at last to their assistance. Science has weighed or measured almost everything. We read of galvanometers and motors and gauges and Edison's latest, the tasimeter, and yet it has never occurred to any of them—not even to Edison himself—to measure beer and other intoxicating liquors. The piously-inclined persons who glibly revile the jovial celebrant of New Year's should remember that the man who has succumbed to the brief pleasures of Bacchus understands the gravity of the situation equally as well as the kind but temperate friend who dilates to him of the horrors of "the moment when conscience returning," etc. The man who becomes accidentally separated from his rollicking friends, who inadvertently walks on to the neighboring race-course, and wonders hour after hour at the interminable long distance from that last saloon to his boarding house, meanwhile gallantly plodding round and round the turf arena swearing that he must have somehow blundered on to the wrong turnpike, will next morning, on reflecting upon his unnecessary pedestrian feat, be as keenly sensitive to his position as the most exacting and enthusiastic Good Templar could desire him. And yet the following New Year's sees him absorbing once more "the ruby of the grape," and, possibly, circumambulating the same race-track from midnight to early morn in a hopeless search for his home.

It follows, then, that ninety-nine young men out of a hundred who get "full" at this festive season of the year, do so unintentionally; hence, if they possessed some scientific means of ascertaining their exact resistance as regards New Year's beverages, they could be forewarned by being forewarned, and would undoubtedly keep sober. Science owes some such invention to the world on grounds of humanity alone. At the present day, when a jovial party observe one of their number

commencing to look generally woe-begone and dismal, it is the barbarous custom for eight or ten of his most muscular companions to seize him by the coat-collar and other available parts of his apparel, bend him forward to an angle of forty-five degrees and run him at a tremendous rate of speed, backward and forward, over a long room. This violent exercise not only effectually restores the unfortunate victim to his accustomed sprightliness, and enables him to join lustily and with renewed vigor in the chorus of "Balm of Gilead," but also lays him up for a month with pains akin to rheumatism. For this reason alone science should be brought to the rescue of our young men, there being no reason in the world why, with Mr. Edison's assistance, we should not continue to celebrate New Year's in the traditional style without its inconveniences; for, since the hopeless entanglement of the encephalic organs and pedal extremities of the modern young man is the result of the weakness of his personal resistance as against the intensity of the liquids imbibed, it must be obvious to all that the trouble could be removed at once simply by one of our scientific men inventing a new kind of rheostat, by means of which the New Year's caller could increase his resistance to suit the increasing number of calls made.

Professional inventors took up this important subject many years ago, but they invariably became shockingly befuddled in the very earliest stages of their experiments; and even at this late day, by the time a professional electrician has imbibed seven beers, valued at thirty-five cents, and absorbed, by induction, as it were, three free lunches, worth at least a dollar, he is prepared to prove his own non-resistance by the following calculation:

$$C = \frac{n \cdot v}{m + R}$$

It will thus be seen that when a professional electrician reaches this stage in his scientific researches, his personal resistance proves so slight that the beer has very much the best of him. Prof. Barleycorn, however, in striving to solve this problem hit upon a device called a beerometer, which is now in use in Kentucky, and which faithfully records, like a galvanometer, the relations existing in a Bacchanalian circuit (commonly called a "free lunch route") between the resistance, electro-motive force, and tension of the modern young man. This beautiful little machine, working very much like a galvanometer, is attached to each New Year's caller, and records by a marked deflection of the needle when its proprietor needs another "smile," and by a still greater deflection when he has smiled enough. By this means, when Smith and Brown have been sitting in the customary saloon, with a long interval between drinks, and Smith's personal galvanometer suddenly begins to deflect—registering, say 45 degrees—Brown takes the hint thus conveyed and does the requisite honors without the customary insinuations which are necessary elsewhere. On the other hand, when Smith and Brown both order up another "round," while their galvanometers record 90 degrees, the conscientious Boniface is thereby admonished to order them both home, on the score of having exceeded their respective resistances by fifteen degrees.

Science having progressed thus far in the knowledge of personal resistances, it would be a pity to stop short of anything but the requisite rheostat to enable the New Year's caller to increase his resistance to suit the multiplying number of his "calls," and all experiments in this direction should be carefully recorded. The way is open, since so much has been already discovered. It has been demonstrated that, as beer in a glass is to all intents and purposes insulated, so long as a man confines his influence to the outside of that glass no current is perceptible between them. The dimensions of a beer glass, be it understood—a schooner, for instance—corresponds exactly to the Leyden jar. The beer is charged negatively with a certain amount of electricity, the smiling customer is also charged (five cents—on the slate), that is, he is charged positively. It follows, then, that when the proper connection is made between the smiling customer and the foaming fluid, a current of great intensity is at once developed, and—judging from the manner in which he subsequently challenges a passing policeman to mortal combat an extraordinary amount of "battery" power is also generated. It is a well-known scientific fact that the electric current always follows the line of the least resistance; and, as the resistance of an old-time operator with regard to beer is naturally very slight, that fluid

passes into his condenser with almost complete conductivity, and, I may add, with apparently very satisfactory results. Now, the dryness in the composition of an average chief operator renders him an almost faultless conductor of beer, and the facility with which he may become the line of the least resistance when some underpaid subordinate is "settin' 'em up," points out a fine field for investigation by our scientists.

It cannot be denied that the scientific explorer in this direction will have bitter opposition to encounter, the greatest amount of which will come from the Calvinistic teetotaler, the telegraph superintendent, and other hysterical men possessing particularly inflexible spines. To them a glass of beer—or "rum" as they class all beverages under the generic title—conveys only a monstrous dream of a policeman, a wheelbarrow, a prison cell, and wreck and ruin generally. But the less sentimental and clear-headed electrician sees in even a whole vat of it only a familiar substance with the resistance of which he is well acquainted, and which obeys regular and well-known laws. The great hitch has hitherto occurred, however, when the electrician failed to calculate his own resistance in connection with the potential of his Christmas beer; but, now that I have supplied him with facts, based upon duly verified experiments to which it was obviously unsafe for him to apply personal tests, there is no reason why he should not perfect such a rheostat as the Christmas festivities demand. This need be only a very simple machine capable of recording the electro-motive force of a double-decker of Milwaukee, and then, having Ohm's law before us, we could, by dividing the electro-motive force by the sum of the resistance, obtain accurately the effective working strength of any New Year's caller with regard to beer.

We would thus be enabled to celebrate the holidays in a becoming manner, to come to work on time next morning, and to add one more triumph to electrical science.

WERNER.

Itinerant Tim.

He travels and expatiates; as the bee
From flower to flower, so he from land to land,
The manners, customs, policies of all,
Pay contribution to the store he glean,
He sucks intelligence in every clime,
And spreads the honey of his deep research
At his return—a rich repast for me. COWLEY.

Tim Laney always clung to the idea that travel was the one thing needful to put the final finish on the gentleman. His whole life had been one of journeying from the time he opened his big blue eyes on the sunshiny world, till he "traveled over the dark river."

He was born on a sailing vessel, the third day out from Queenstown, and was twelve weeks old when the tempest-tossed ship arrived in New York. Perhaps slow travel was instilled into him from his birth, as he never traveled very fast, and frequently remarked: "It's not the miles we travel, but the pace that kills."

We together entered this fascinating telegraph business as messengers, and, as is usually the case, graduated into operators. Tim's career as message boy was very satisfactory; on short distances he seemed to travel with sufficient speed, and as an operator he was "gilt-edge." His sending of the Morse characters was as nearly perfect as may be, while his penmanship was simply superb. Billy Landy turns out a copy nearly like Tim's—and the "woods are not full" of those kind of penmen, either! Laney's love for travel seemed to increase as the years rolled on, and his sojourn in any place was limited to three months. He would arrive down east with the blue birds, and when the rice birds were flitting along the sunny sea isles of the South, you would find Tim working the "gulf" or some other heavy wire. Perhaps over this wide expanse of territory he would "do" the principal cities for a fortnight.

"An age of traveling is an age of a thousand acquaintanceships and many friendships," said Tim, "You meet a new face, and enter into conversation, although your companion, be he an operator or not, may take a different route to-morrow, and you part for ever; although your acquaintance may be of a few hours duration, you have had a pleasant interchange of thought, gleaned new ideas, and gained a wider knowledge of human character. Travel makes a man liberal-minded and broad-viewed. So I love to seek 'green fields and pastures new,' but I protest against being classed with the men that 'fold their tents and silently steal away.' Such men are a disgrace to our profession, and

should be black-balled in every society." Many bits of travel Tim could relate, and it was a pleasure indeed to listen to his stories, so aptly told that you could imagine yourself traveling with him in some pleasant, hilly country, where the fresh breeze brings you the strength of the mountains, or wandering over the rich, moist meadow, with pretty glimpses of heath, fern, and rich plain. His "round the switchboard" stories were full of enjoyable things. "Talk about the educated Boston people," said Tim one night, "I have heard some of the most atrocious blunders made in Boston—that modern Athens (?)—than any other city in the States. An old lady up there told me that her pastor intended lecturing on the *cozcombs* of Rome, I mildly suggested that perhaps it might be the catacombs of Rome, to which she assented that it was some kind of combs anyway. In conversation with another Boston lady, we chanced to speak of telegraphy. I told her that we very frequently abbreviated messages. She wisely informed me that beside abbreviating she understood we shortened them too." Tim related some conversation he overheard between a certain telegraph superintendent and a villager. The superintendent was telling about a buoy (pronouncing it boy) that a steamer lost overboard, which, after floating about for a month, was brought into a neighboring town by a fishing smack—the captain discovering it by the white flag fluttering from the top. After the superintendent finished, and all was quiet, an old gentleman, with all the simplicity imaginable, asked if the boy was *alive* when they found him. "Well!" said Tim, "I thought I would split with laughter. The look that overspread the superintendent's face is indescribable."

It required no spirit rapping to see that Tim was a man possessing a comprehensive as well as a penetrating mind. Although his education was far from that of a collegian, owing to his keen observation his conversational powers were excellent. His wanderings had not been in vain, and if the rolling stone had gathered no moss, I am sure he had gained a clear insight into human nature, and had gathered something of more value than this so called moss—i. e., "filthy lucre." Itinerant as he was he could not by any means be classed among the "tramp operators." He was pure, noble and honest. "Pay as you go" was his motto, and that old axiom he had pasted in his hat. Cheery and bright, methinks I can now hear him singing:

"I am happy as the day is long,
And my happiness I hold secure,
Would any one the reason know?
'Tis because I am neither rich nor poor."

But safely locked within Tim's heart was a romance. A sweet little maiden whom he met somewhere in his travels, had been his load-star, and won the heart of this restless spirit. Our well-tested bonds of feeling and association had mellowed more and more into deep affection, and while we were filling an engagement with the Pacific and Atlantic Telegraph Company in New York, Laney unfolded this bright oasis in the desert of his wandering life. "I cannot describe her," he said. "Words are inadequate. These four lines of an old song may faintly convey what she was:

"Her eyes are black as the sloe,
Her lips in smiles combine,
Her breath is pure as the snow,
Oh, there's no such girl as mine."

"She drew me irresistibly toward her as the magnet draws the needle, and I might as well try to resist the balmy April wind over a mayflower bed, as resist loving her. What a sweet little fairy she was! Perhaps my insatiate love for travel would have ceased if my love had terminated happily. But, alas, Guy, the sky must be clear of clouds before the stars can be seen or the dew fall. This creeping, insinuating, village gossip caused the clouds of doubt to arise between my love and I, and in spite of all my earnest denials and pleadings the star of love was dimmed, and the gentle love-dew ceased to fall. Oh, this circumstantial evidence! how much unhappiness it causes." But I pause—this is not a love story, nor is it for me to reveal all the depths of his sacred heart history.

In Tim a protective association would have found a warm supporter. He frequently conversed about the gigantic power excited by monopolies throughout the country, and how few people were aware of it.

"I believe," said Tim, "That the telegraphers, could organize an order second to none, and they are fast missing their chance; what with plug factories all over the land, and every other railroad office with one or more students, the country will soon be overrun with operators, and, as in most

other professions, salaries will be reduced." How true was his prophecy most of us well know; but still men delay, and fear to grasp this last opportunity. I only wish some good fairy would show the operators where their folly will land them—this teaching of their intimate friends (?) Were Tim among us, as of yore, he would not now be silent, his pen being as ready as his tongue; our wide awake champion THE OPERATOR would beam with his masterly arguments. Quite different from some of our well known fraternal *litterateurs* whose pens have not been those of the ready writer in this cause.

The last time I saw Laney was in the fall of 1875. He was then about migrating to South-land, having accepted a position with the Western Union at Memphis. I was then working on the day force at 197 Broadway. The night before he left, in the cozy restaurant of the "Astor," Tim met several of his intimate friends, and over some "log creeks" and a few bottles of "old Burton," passed a delightful hour. He left for Memphis early the next morning. This was Tim's last earthly journey. In the following spring he contracted the malarial fever, and his bark sailed out on the boundless ocean of eternity to anchor, we trust, in a fair haven of rest.

"Leaves have their time to fall,
And flowers to wither at the north wind's breath,
And stars to set—but all,
Thou hast all seasons for thine own, O, Death!"
GUY LARUE.

Underground Telegraphy in Philadelphia.

In the spring of 1877, Mr. David Brooks, of this city, laid a line of sixteen telegraph wires, in a one and one-quarter inch diameter pipe, from the north side of the Pennsylvania Railroad depot, in West Philadelphia, to the signal station near the Arsenal bridge, across the Schuylkill, on the Junction Railway. This line was laid as an experiment to connect telegraphically two signal stations, also to work the block signals through the tunnel under Market and Chestnut streets. The entire length of pipe is something over a mile. Three-quarters of this distance the iron pipe lies in the bottom of a trench of running water. The success of this experiment induced the railroad company to lay other wires across the Schuylkill, at the Arsenal bridge, and also the Pennsylvania Railroad to lay underground wires to connect their system of block signals extending westward from their depot. These experimental lines were laid in 1877, and have worked without interruption to this time. The insulation of the experimental line, which measured about four megohms per mile when first laid, rose gradually to sixteen megohms. The temperature of the water in which the pipe is laid is 55 degrees Fahrenheit. On Tuesday last, the oil in a portion of the pipe was changed and a better quality substituted. The insulation now measures seventy megohms per mile. The insulation of this system consists in covering copper wires with cotton, laying a number of these wires side by side and winding them into a cable or rope, which is pulled into iron pipes filled with paraffine oil. In this manner fifty No. 18 copper wires are easily drawn into an iron pipe of one inch diameter. The most convenient lengths for drawing in and afterward splicing together are about one thousand feet. The insulation of the wires in the pipes is maintained by the use of liquid paraffine with which the pipe is filled, which prevents the access of moisture. This paraffine is the most stable and durable of all known substances, not being affected by acids, alkalis or re-agents of any kind. It solidifies at about twenty degrees below zero and then becomes as white as snow. It is exceedingly cheap, there being enough wasted in the oil regions in one week to insulate all the telegraph lines in the world. It is rendered anhydrous by a very simple and inexpensive process, and in this condition is the greatest insulating substance known. Wires drawn into pipes with one thin covering of cotton and insulated with the anhydrous oil show an insulation of twenty-five hundred megohms per mile at a temperature of forty degrees Fahrenheit.

A still more remarkable feature is the absence of those inductive effects incident to all other insulating substances. The telephone, when worked in pipes with other wires in operation, is entirely freed from disturbing effects, and the voice appears nearly as natural and distinct as in ordinary conversation. The nature of the insulation, combined with the absence of induction, brings the cost of a telephone conductor best adapted for the purpose to between three and four dollars per mile. Another feature of

the system is its permanence. The part that is liable to decay is the iron pipe, and that takes place entirely from the outer surface; everything within is preserved by the paraffine oil. The wires are not broken, crossed or disturbed by storms or affected by atmospheric electricity. When the value of such a conductor is considered, its electrical condition being so permanent or constant, in view of the different systems of duplex, quadruplex, automatic and multiple telegraphy, all of which require, with ordinary telegraph conductors, counterbalancing resistances, condensers and currents to be varied and adjusted for every change of temperature, atmospheric disturbance and of weather, one can scarcely realize the capacity of such conductor upon routes where the traffic now requires a number of conductors. It is stated by Mr. Brooks that ten wires by this system can be laid much cheaper than when strung on poles and the capacity of ten wires thus laid can be safely estimated to exceed fifty wires erected in the usual style.

It is about eighteen months since the practical success of this system was made manifest. Since then patents have been obtained in almost every country that has a patent system. A company has also been formed under the title of the "Brooks Underground Telegraph Construction Company, Limited." The business of this company is to lay underground—and under water—telegraph conductors. The first operation of the company will be to lay thirty wires for the city Fire and Police Telegraph from the Mayor's office, Fifth and Chestnut, to the police station in Fifth street, near Vine. This is the route of their greatest number of wires, in distance about half a mile. This work will be done as soon as Mr. William Wharton, Jr., the contractor, and the city authorities deem it prudent to open the street.—*Philadelphia Times*.

The U. S. M. T. Line in New Mexico.

When the business men of New Mexico look back to a period of three years, when all their business was necessarily transacted through the medium of stages and pony mails, thereby causing many severe losses, and occasioning countless annoyances, it is a matter of no small comfort to them that they now have at their disposal a reliable and well conducted telegraph line. That a line built through a country destitute of railroads, where poles could only be procured at great disadvantage, where it would be subject to the most violent storms, and repaired (at that time) at imminent danger, could in any way be remunerative seemed highly improbable some three years ago, and up to that time no telegraph company had the temerity to make the attempt.

But that such a line was built, and is now in splendid working order, more than paying expenses, being almost as great a benefit to the territory as would a railroad, is a matter of much consolation to the Government, and proves that they were wise in appropriating the money for its construction, and placing it under the control of the Chief Signal officer of the army, by whom the idea was projected and executed. General Myer was the first to see the advantage it would be to the country, and the many benefits that would accrue to the Signal Service, justifying him in establishing more stations of observation, now that there were facilities for obtaining reports from them, thus not only benefiting the territory, but the country at large. The principal portion of the line was built during the spring of 1876, and the summer of 1877, under the superintendence of Lieutenant S. C. Vedder, acting Signal Officer. In May, 1877, connection was made with the Arizona division of the military telegraph. The line is operated by men of the Signal Corps (with three exceptions), who in some instances perform the double duty of operator and weather observer.

Beginning at Santa Fe, the headquarters of the line, it extends south to Albuquerque, Los Lunas, Belen, Socorro, Fort Craig, and La Mesilla. From La Mesilla it extends west to Fort Bayard and Silver City, the latter place being the last office on the line, in that direction. The personnel of the line is as follows: Manager at Santa Fe, W. G. Adams, chief operator; manager at Albuquerque, S. W. Naylor; at Los Lunas, W. M. Smith; at Belen, John Becker; at Fort Craig, James M. Watson; at La Mesilla, R. J. White; at Fort Bayard, W. A. L. McChesney, while Manager M. Hoover officiates at the repeating station, Silver City. At present work is progressing rapidly on extension south of El Paso, Texas—manager, Robert Reeder—to connect with Texas Division; two detachments are in the field building line, one working from Fort

Davis, north, the other from El Paso, south; the latter under the personal superintendence of Lieut. James Allen, A. S. O. The first of January, 1879, will see the Signal Service operating a telegraph line from the Gulf of Mexico. From Fort Craig to Fort Selden, a distance of about ninety miles, is the Jornada del Muerto, which, translated, is the Journey of Death. It is rolling prairie, the earth being almost as hard as stone. There are now three places on the Jornada where water can be procured, Martin's Well, Point of Rocks, and Aleman. The first-named place is a natural well, while at the other two the water is hauled a distance of twenty-five miles. One great instance of the good accomplished by having a telegraph line is the facilities it offers for the arrest of road agents who formerly infected the lower portion of the territory. In November, 1876, a southern bound stage was stopped by road agents near Alanillo, and robbed of a large quantity of silver. Information of the robbery was conveyed to the nearest telegraph station, Socorro, about twenty-five miles distant, and being promptly sent to each of the stations, the robbers were caught, and the money recovered, whereas in former days to have secured the robbers would have been an impossibility.

The Pueblo Indians, who have villages near the line, regard it differently to what eastern people would suppose. One unacquainted with the native red man would naturally imagine the line would be in danger from him, but not so. He fears it as though it were a venomous thing, and nothing can induce him to touch it. The aboriginal mind fails to grasp the great electric theory. They often stop before the window, and look in upon the instruments, but it is with astonishment and awe depicted upon their faces.

Santa Fe being the army headquarters of the district of New Mexico, the officials of that branch of the government are enabled to communicate with the various forts throughout the territory. The successful construction and operation of this line has been to surmount a great difficulty, and accomplish much good for which the business men of the territory are grateful to the Chief Signal Officer, to whom it is due.

SANTA FE, N. M.

LESTER

The celebrated instruments of Daniel F. Beatty, the great piano and organ manufacturer of Washington, N. J., are unrivalled in purity of tone, action and excellency of finish, being the result of years of indefatigable labor, the aim of which has been to make only the *very best*, and sell at the least possible profit. This course has resulted in the name of Beatty becoming a household word in every State and Territory of the Union and Canada, and familiar to numbers of the residents of England, Germany, France and Italy. The special offers of Mr. Beatty, which appear in our columns to day, mean just what they say. The instruments are all and more than is claimed for them, while the prices are barely manufacturer's cost, for Mr. Beatty is determined to place his unexcelled instruments in the homes of the entire music-loving population. No one contemplating the purchase of an organ or piano should fail to take advantage of his offers, as a neglect to do so will be a matter of regret. Remember these offers are only good during the next thirty days. The illustrated catalogue of Mr. Beatty is detailed and full of information interesting to every one. It will be mailed free on application. Send for a copy to Daniel F. Beatty, Washington, New Jersey.—*Exchange*.

THE Paris Bourse newspaper says that the Crédit Industriel and Société Financière, conjointly with a first-class American Syndicate, have taken up the concession of a cable between France and America, granted to M. Pouyer-Quertier by the French Government. The *Côte Européenne*, in its issue of Dec. 27th, adds:—"The Paris and New York Telegraph Co. of M. Pouyer-Quertier has got three Parisian financial institutions to guarantee the capital necessary. American and French capitalists are also interested, the latter, probably, rather from patriotic motives than with a view to profit. The amount of capital required is 52,000,000 francs (\$10,400,000), of which 42,000,000 francs (\$8,400,000) will be raised by the issue of 84,000 shares."

The run of new electric light patents is beginning to slacken, and specifications for "curative magnetic appliances" and "electric snuff" are again all too conspicuous.—*London Telegraphic Journal*.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

W. J. JOHNSTON, - - - Publisher.

January 1st, 1879.

No matter what you want from New York, whether it be in the line of Telegraphic goods or not, send the order to us. We will see that you get exactly what you want, and at the very lowest price, never charging you more than if ordered direct, and very often considerably less.

WESTERN UNION stock is quoted at 95½, and A. & P. at 29.

A COMPANY has been incorporated in Brooklyn for the purpose of introducing the electric light in Long Island, Coney Island, and Shelter Island.

THE picture "Hazing a Freshman," in this issue, is from the pencil of Mr. Joseph Muchmore, of 197 Broadway, this city. Mr. Muchmore promises us another sketch for next issue, and one every issue, or every alternate issue thereafter, if they shall prove acceptable to OPERATOR readers.

A Mr. J. H. RUSSELL filed an objection at the Patent Office in London against the issuing of Mr. Edison's electric light patent, and the case was heard in that city last week. The ground taken is that Edison is not the first inventor. When the testimony on both sides was in, the Solicitor-General decided that Edison should be allowed to proceed with his application, and Mr. Russell was cast in costs.

In the second edition of Mr. Prescott's "Speaking Telephone, Talking Phonograph, and Other Novelties," just published, about 200 pages of new matter relating to the electric light, Edison's recent telephonic and acoustic inventions, duplex telegraphs, electro-magnets, and electric time service, have been added. The book is now called the "Speaking Telephone, Electric Light, and Other Recent Electrical Inventions," and the price has been fixed at four dollars, though the "Speaking Telephone" and "Electricity and the Electric Telegraph" will both be furnished together for \$6, as heretofore. Either or both books can, of course, be ordered through this office.

REFERRING to the article on Canadian telegraphy which appeared in THE OPERATOR of November 15th, and in which the credit for cheap rates was given to Mr. H. P. Dwight, Superintendent of the Montreal Telegraph Company, a Dominion correspondent sends us a circular published in 1874, which shows that no reductions were made by the Montreal Company until November, 1868, four months after the Dominion Company had been started, while the uniform rate by the latter line had always been 25 cents for ten words from its establishment. Even in 1868 the Montreal rate was not uniform, and as late as 1869-70 it was as high as 60 cents for ten words, and in a few instances 75 cents between points within the two provinces of Ontario and Quebec.

Seasonable Thoughts.

With the present number of THE OPERATOR we enter upon a new year. Another milestone in the journey of life has been passed, bringing us one year nearer our destination—one year nearer the grave. At the end of the year the merchant casts up his accounts to ascertain whether he is making money or losing. So should we at this time stop and ask ourselves whether, in the great journey of life, we are gaining ground or falling behind. Telegraphers, though younger in years than the members of almost any other profession, are not any more exempt from a visit by that dread messenger "who waits on all, but waits for none."

During the year just ended many young and promising members of the craft have been called to their long home. Some died of consumption, of which fell disease so many of our brethren fall victims every year; some were cut down in the flower of their youth by the dread epidemic at the South, heroically standing by their posts of duty to the last, and some died from other causes. Who can say how many of us may not be added to the list ere another New Year? These are serious thoughts, but profitable, and should not be lightly passed over.

Every thoughtful man and woman has at times been impressed with and oppressed by the brevity of human life. Life is, at best, to use a telegraphic simile, but a slender cable connecting two boundless continents—the past, the future—two eternities. The days, weeks, months, years, all go by with feet slipped in velvet, and so noiseless is their tread that we scarce note their coming or their going. Childhood passes into youth almost in the twinkling of an eye. A little laughter, an hour's play with a few toys, and the mind is sobered, and the hour has arrived when childish things must be put away. Youth changes to manhood in an instant at the command of that necromancer, Time. A few dreams, a few castles in the air, a few visions of one day becoming superintendent or perhaps president, and then the shoulders are broadened to bear the heavier burdens, and the heart is strengthened to endure the weightier responsibilities of life. Manhood changes to old age almost as quickly as a flash of heat-lightning disappears from the summer's clouds. A little hard work, a few years of earnest toil, some hours of bitter disappointment, some nights of weary weeping, and then the current of life becomes weaker, the nerves grow dull, the sight grows dim, the snows of winter are scattered over the head, the hopes of earlier days, like over-ripe fruit, drop from the boughs, and then the sun sets in the West, the golden clouds reflect its light to give us a twilight for a few moments, and soon the night comes down in which man can neither walk nor see.

Life is but a bubble, which, as it grows larger, reflects more and more the prismatic beauties of the sunshine, and then bursts, and is gone from the sight forever. You cannot hold on to your years, however strong your grasp may be. They will slip from you, in spite of your entreaty or your menace. Sitting on the sea-shore, you have tried to hold a handful of sand. What a useless task it is! It slips from between the fingers before you know it, and after a little you open the hand, and only a few silvery or golden grains are left. So life slips from our grasp. No necromancer can bid the sun stay in his course, or

lengthen the days by a single hour or minute. The clock of time is ticking the hours away, whether you are hungry or well fed, and the pendulum of time is swinging, whether you are well or ill.

And yet life is longer than it has ever been before. If it be true that "We live in deeds, not years; in feelings, not in figures on a dial," then it is also true that we can do more and be more to-day than was possible to any of our predecessors. Every century, with its new inventions, adds something not only to the comfort, but also to the duration of life. Practically, there is no such thing as distance in our generation. It has been obliterated from the page of science; it has been utterly annihilated. A stern fact in the life of our fathers, it has become to us a mere myth, a shadowy nothing. It required months on months for them to plow their way over the stormy and dangerous deep, and reach the antipodes; but we can sit in our offices and whisper so forcibly that Bombay shall hear it, and our brother, who stands by the rising sun, shall send us back an answer to our inquiry. Our fathers used to toil along the highway from town to town and from State to State. Much of their lives was apparently wasted in the mere work of getting from place to place. But we lie down on a curious couch, in a curious house on wheels, and the wonderful mechanism that is attached to it draws us over the continent while we sleep, and when we wake we find ourselves far, far away from home. So restless and impetuous are we, so economical of our time, that we even lift our railroads in the air, as has been done here in New York, and so speed from street to street through the great city, remaining at home longer in the morning, and reaching home earlier in the evening, because of that marvelous invention which gives us spare time.

In Athens, in the wonderful and heroic days of the past, when Plato and Aristotle taught in the Academy and the Lyceum, scholars came from all parts of the world to sit at their feet in discipleship. Years on years were consumed when one left his far-off home, and traveled across the desert, that he might learn his lesson in marble Athens, and then go back to repeat it to his brethren. But to-day it is not necessary to cross the wild wastes of the Atlantic that we may sit at the feet of Carlyle, and hear his bitter, biting sarcasm, or that we may listen to the voices of Huxley and Tyndall, or be charmed by the rhythm and music of the poetry of Tennyson. The printing press has made the teachers of the world practically ubiquitous. They are to be found everywhere at the same time. Their voices are heard in the far West, in the tropical South, and in the frozen North; and every fresh utterance from their minds, by this magician, the printer, is stamped upon the page, or by that other magician, the telegrapher, taken upon the wings of lightning, and carried the wide world over. Carlyle, Huxley, and Tennyson have flashed themselves into the life of the generation. We sit at our breakfast table in the morning, and the four corners of the globe are at our feet, each one telling us its story. Nothing can happen throughout the length and breadth of the earth, but we know it almost before the echo of the convulsion has died away. The wires are our messengers, and the newspapers our gossips, our philosophers, our friends; and in their white pages they tell us the history of the world for the last twenty-four

hours. It may be said, without exaggeration, that there is nothing, nothing which is not immediately accessible to man. The means of making our lives great are plentiful, and always at hand. Methuselah, with all his added centuries, did not live as long as do we of this nineteenth century.

The Injunction Suit Against the W. U.

The argument for an injunction in the action of Clinton W. Colgate against the Western Union Telegraph Company, restraining the defendant from the use of the plaintiff's patented gutta-percha insulator, was had before Judge Benedict last week, in the United States Circuit Court. The Court recently decided in favor of the validity of the patent, as already reported in THE OPERATOR, and the question of the damages sustained by the plaintiff for past infringement is being settled by examinations before Master-in-Chancery Guttman.

The complainant, through ex-Judge Shipman and Mr. Betts, counsel, offered to receive an annual license fee of \$100,000 for the remaining seven years the patent is to run. In the event of the rejection of this offer the counsel asked a permanent injunction against the defendant. Messrs. Gifford, Soren and ex-Judge Porter presented for the defendant affidavits and arguments claiming that the insulating substance of the Day patent, known as kerite, was as good as the plaintiff's insulator; that if nine or ten months were given them they could substitute the kerite for the gutta-percha throughout their submarine and other lines where it was needed. If an injunction were put upon them, however, it would prove a great detriment to Government and public and private interests by stopping the transmissions of messages through sub-aqueous cables. Finally, they claimed that \$100,000 was an excessive license fee to demand.

The plaintiff's counsel responded that \$100,000 a year was less than 1 cent a message, and it was conceded that the average profit was over 13 cents on each message. Mr. Betts said that they were willing that the defendants should have sixty days to change their insulators to the kerite method, but they asked that the injunction should grant the company no longer time if it refused to accept the license fee. The arguments will be continued during the present week.

Our Tenth Volume.

We do not usually care to talk much about ourselves, but as THE OPERATOR to-day commences its tenth volume, we may, perhaps, be pardoned for drawing attention to the progress of the paper since its establishment a little less than five years ago.

The paper consisted of but four pages, and in size was somewhat smaller than the present outside sheet, and depended almost exclusively upon local patronage for support. To-day it has grown to four times its original size, and circulates extensively not only in every State and Territory in the Union, but also through Canada, as well as in Europe, Australia, Brazil, and other foreign countries. Let us hope that it will increase in stature, influence, and usefulness in an even greater degree during the next five years.

We hope that those whose subscriptions expire with this issue will all promptly renew, and that

each will endeavor to send in the names of at least one or two new subscribers along with his own. The price of the paper is a mere pittance compared with the benefit we hope to make it to every subscriber.

We are pleased to learn that Mr. Reid's book, "The Telegraph in America," has met with a very flattering reception from the craft, and that the greater portion of the first thousand copies has already been disposed of. The expense of the book, on account of the large number of engravings, has been very great. Mr. Reid merits the gratitude of the fraternity for giving us such a work. These old-timers are fast slipping away from us, and with them the early history of the telegraph in this country, with reminiscences of those prominently connected with it in its infancy. We don't know of any person as well qualified for the task of writing such a book as is Mr. Reid, and his "Telegraph in America" will be read, we are sure, with pleasure and profit by succeeding generations of telegraphers long after its respected author shall have passed from among us. An advertisement of the book will be found in another column. Copies can be ordered through this office on same terms as of Mr. Reid.

THE year just ended has been in some respects a disastrous one in most branches of business, but the outlook for 1879 is more hopeful. The opinion is general that the worst has been passed, and that any future change will be for the better. It is hoped that ere another New Year the condition of telegraphers will be considerably improved. So soon as general business revives, many new in telegraphic service, but not adapted to it, will seek other employment, leaving the field more exclusively to those who have devoted their lives to it. This will naturally have the effect of increasing salaries if telegraphers themselves do not neutralize it by continuing to teach students, as so many have done in the past.

Let those who have not already taken a vow to stop taking students, register one to that effect at once. Let the battle cry be: "The students must go."

THE proposed pooling arrangement between the Montreal and Dominion Telegraph Companies has fallen through, and the correspondence on the subject has been printed. Sir Hugh Allan, President of the Montreal Company, in a letter to Hon. T. N. Gibbs, President of the Dominion Company, accuses the latter of incorrectly reporting conversations between them, and Mr. Gibbs courteously calls Sir Hugh another, adding: "I am confident that all who dispassionately read what has been written will concur in the view that your accusation is as unfounded as your conduct throughout the business has been indefensible."

Mr. W. H. Preece, the English electrician, said before the British Society of Arts the other day that he looked upon the subdivision of the electric light as a practical impossibility. He added that he had visited Mr. Edison in America, and passed two very pleasant days in his laboratory. "Mr. Edison," he said, "was an extremely ingenious man, but his ingenuity often carried him to extremes. Not having seen Mr. Edison's light, he could not say very much about it, but he feared he had tumbled into a tremendous mare's nest."

Themes for the Thoughtful.

People who are very clever, very proud, or very careless, never succeed with society.

If every year we rooted out one vice, we should soon become perfect men.

Great wants proceed from great wealth, and make riches almost equal to poverty.

The power of persistence, of enduring defeat, and of gaining victory by defeat, is one of the forces which never loses its charms.

He that would have the perfection of pleasure, must be moderate in the use of it, for one may become surfeited even with sweets.

A mind trained to self-denial meets trials with an amount of reserved moral force quite inexplicable to those less habituated to self-control.

Oratory and poetry are of little value unless they reach the highest perfection; but history, in whatever way it may be executed, is a source of pleasure.

Every wanton and causeless restraint of the will of the subject, whether practised by a monarch, a corporation, or a popular assemblage, is a degree of tyranny.

When you hear people talk of the wickedness of mankind, partake not of their pleasure. When you hear people speak of the virtues of mankind, approve and rejoice therein.

Single-minded men always succeed. The wedge, says Carlyle, will rend rocks, but its edge must be sharp and single; if it be double, the wedge is bruised in pieces and will rend nothing.

A resolution that is communicated is no longer in thy power; thy intentions now become the plaything of chance; he who would have his commands certainly carried out must take men by surprise.

Love is lowliness; on the wedding ring sparkles no jewel. Fancy and sickness are the parents of the air born destroying angel, who flies scorching, like a dumb heat lightning, over all the blossoms of youth.

Pure imagination, of which the loveliest of winged creatures is the fitting emblem, seems always to gain in vigor and grace by the tempests it encounters, and in contrary winds to show the brightest plumage.

Avert your gaze from the crosses of the future. You see them without the softening, sustaining grace which accompanies them when they reach you. Let all your efforts tend to bearing the cross of the present moment.

Sunday has been called by a saint the bond of union of hearts. Sunday we clothe ourselves anew in garments which are not only fresher, but more elegant. Why not make the toilets of our hearts as well as the outer toilet of the body? The heart during the week has been often soiled and worn by little ranklings, by multiplied vexations, by hard words. Let us shake off this dust which fashions the affection, and generously pardoning one another, clothe ourselves anew with charity, forbearance, and amiability.

Are not the following, asks a lady, things for doing which one will not repent, worthy a place beside the string of triplets copied from a young lady's album, and recently published in THE OPERATOR?

- For being polite to all;
- For speaking evil of no one;
- For hearing before judging;
- For thinking before speaking;
- For holding an angry tongue;
- For being kind to the distressed;
- For refusing to kick a fallen man;
- For stopping the ear to tale bearers;
- For disbelieving most floating gossip;
- For being patient toward everybody;
- For doing good as he has opportunity;
- For asking pardon for wrongs and mistakes.

Hotspur Before the Superintendent.

My liege, I did content no chieftain;
But I remember, after "N. M." had been given,
And I was dry with rage and extreme toil,
And nothing stronger than rain-water
Within forty miles, there came a certain pling,
Primly dressed—nobly, in fact, with a cutaway coat,
Flashy necktie, and pants louder than the
cattle of ten thousand giant sounders,
He was fresh as a bridegroom;
To speak vulgarly, he was a trifle too fresh,
And was scented like ice cream
At a church fair—with vanilla milk,
Rose water, cologne, hair oil, and such,
And I cannot pretend to say what else,
Between his finger and his thumb he poised
A consumptive looking cane,
Which he ever and anon bawled down upon the counter,
And still he talked and gesticulated,
And as customers lunched in their business,
He called them untaught knaves, unmannerly,
To bring a slovenly half rate message
Between the wind and his nobility.
With many soothing and complimentary terms,
Such as "Baron," "College Graduate,"
He addressed him among the first
Demanded why I did not give him
circuit. I then, all smarting with
Indignation, being called to be so pestered
With a seven-by-nine poppin'jay,
Like this slinger of vitiated Morse,
Out of my grief and my impatience,
I lifted him revealing the school house,
And you might have heard his little
Coat tans crack as he pressed
Over into the next county,
This bald, unfledged chat of his, my lord,
Disturbed my Dutch, and I beseech you,
Let not his mysterious disappearance
Come between my love and your high majesty.

Three New England Manufacturers of Telegraphic Goods.

During a recent brief visit to Boston we called at 109 Court Street, and found business there remarkably lively. The popularity of the telephone in Boston, where there is a telephonic exchange in successful operation, has furnished Mr. Williams with considerable extra work, but, with an increased force of workmen, he manages to keep up with his orders. Besides telephonic goods Mr. Williams manufactures all kinds of telegraphic and electrical instruments, batteries, and supplies. He makes a specialty just now of improved magnetic call-bells for telephones. The price of these is \$25 a pair, and they are of extremely pretty design, substantially made, and possess all the latest improvements. Mr. Williams turns out from twenty to thirty of these magnets calls a day.

We also called upon Messrs. Jerome Redding & Co., of 30 Hanover Street. This firm does an extensive business in fire and burglar alarms, electric bells, annunciators, learners' instruments, etc., as well as telegraphic and electrical apparatus of every description. It also builds and equips lines with the Gold and Stock telephone, and constructs and keeps in repair private lines generally. The instruments manufactured by Jerome Redding & Co. are extremely tasty in appearance, of excellent finish, and sold at a low price. Persons intending to purchase should send for new illustrated catalogue just published. This firm is now getting up a new learners' instrument which promises to be very neat, and, at the price, remarkably cheap. Many operators augment their salaries not a little by introducing Jerome Redding & Co.'s burglar alarms, annunciators, etc., in their own towns.

Making a brief stop in Providence, we had the pleasure of being shown through the establishment of Mr. Eugene F. Phillips, manufacturer of insulated telegraph wire, telephones, and flexible cordage, arial and underground cables, etc., in that city. The great demand for telephone has given quite an impetus to Mr. Phillips' business, which, with his regular work, keeps his factory unusually busy just at present. We believe Mr. Phillips' is the only place in this country where telephone cordage is made. Among the several grades of wires manufactured here might be mentioned that used for annunciators, burglar alarms, and electric clocks; this is double, covered with cotton and dipped in a solution that gives it a finish, partially insulated and impervious to moisture. A nicer grade, more elaborately finished, is made for office fixtures, etc. The processes of finishing the better grades of wire are patented and solely used by Mr. Phillips, by whom nearly a dozen patents are controlled. Another class of wire is

covered with rubber and made waterproof, and perfectly insulated. For winding magnets and telephones, a wire as fine as a hair is covered with silk, in a manner so deft and swift as to challenge admiration. Flexible elevator cables and very supple wire for the attachment of the mouth and ear pieces of the telephone, and a lead-covered cable for underground use, are made, covering one or many wires and in any lengths desired. The copper wire is all tested at the factory before being used, and the standard maintained is 96 per cent., which shows the high quality of the goods manufactured by Mr. Phillips.

Mr. Phillips has recently been fortunate in associating with him as electrician and superintendent of this department of manufacture, Mr. W. H. Sawyer, for seventeen years a practical telegrapher at the key, as superintendent of the Gold and Stock Telegraph Company of this city, and later as general superintendent of the American District Telegraph of New York.

Another part of the factory is devoted exclusively to the manufacture of the Atlantic tubing, and as this is the only place in the United States where these gas conductors for drop-lights are manufactured, the business done is very considerable.

What Say?

As I was glancing over a newspaper not long ago I noticed that a lady traveler, writing of her experience, said something very like this: "Several people, among them the telegraph operator, of whom I asked for some information, gave me very short answers, and left me as much in the dark as ever." That was bad, Mrs. Traveler. I believe in politeness, the real, true politeness which springs from goodness of heart, and kindness of disposition. But did it ever occur to you that that operator may have had a good reason for answering you in that way? And will you think me more partial than wise if I say that I think operators as a class are extremely kind and obliging? Let me sketch for you a little incident that occurred at my own office a few days ago. Similar ones have occurred many times before, and are likely to be repeated, not only here, but at all offices. Imagine an operator at the main office sending rapidly, your humble servant trying to take the message down in legible English. Date is written when a head appears at the window:

"Please, Miss, can I leave my satchel and shawl here while I go over to the village?"

Operator, briefly, "Yes."

By this time sending operator has written address, and is presently requested to go over it again. He does so hurriedly, for operators at main offices have very little spare time. When he has got as far as first word of the message, Mrs. Traveler asks:

"Shall I bring them in, or will you take them?"

Operator, with a scowl, requests Mrs. T. to wait a minute, and sender to go ahead from period, which he does after jerking out a very impatient "Oh!" A word or two more is written on the blank, when Mrs. T. evidently thinking the minute is up, inquires:

"If I shouldn't get back until after twelve, will you be here so I can get my things?"

While the attention of the receiver is diverted by the question and its answer, the remorseless little instrument has clicked out a number of words, and she is obliged to ask the sender to go ahead from her last written word.

Sending operator, getting angry, inquires: "Oh! oh! why don't you run your paper!" then goes ahead very rapidly. At last the signature is reached, and receiver is breathing a little freer, when Mrs. T. again interrupts:

"I'll leave my things on the shelf here, and you can take them in when you get ready."

Receiver has caught part of the name, and meekly asks if it is so-and-so.

Sending operator: "What is the matter? Don't guess at anything." Repeats signature.

Receiver gives O. K., feeling very much as if a large number of her later years had been devoted to stealing sheep, and entirely forgets that she has a private signature. Sending operator thereupon volunteers the information that he thinks it about time for O. K., and tells her to "sign."

As I timed that message I felt it my duty to be exceedingly vexed with somebody, but with whom should it be? Sender didn't know why I broke so

often. I couldn't avoid breaking, and Mrs. Traveler had no idea she was bothering me.

That before a person addresses an operator in his office he would first stop to notice if that operator is busy, "is a consummation devoutly to be wished," and might save much annoyance or real trouble.

L. A. CHURCHILL.

What Becomes of Some Old Telegraphers.

I have not been a subscriber to your new-style little paper, but have keenly enjoyed a copy of a late issue sent me by a friend. Feeling that it is high time for me to subscribe, I herewith send coin for one year. Among the articles that pleased me in the copy mentioned was one signed "Damon," which in an easy style tried to answer the rather difficult question, "What becomes of the old Telegraphers?" "Damon" is inclined to think that an answer may be found in the saying, "Whom the gods love, die young," thus pleasantly implying that we, as a body, are favorites of the ancient mythical deities. Another and more satisfactory reason, he says, is found in the fact that so many good men drop operating, from lack of proper inducements to remain, and drift into professions in which their services are more generously rewarded.

I think another reason may be found in the dissipated habits that their peculiar life leads operators into when young. I myself am an operator of many years' experience, but for the past few years have been stationed at a repair station in the backwoods of California. Since coming here I have been acquainted with many operators well along in years. They were, without exception, men of fine talents, genial wit, gentlemanly appearance, and far superior as operators to those with whom their lots were cast. They came here to fill a rough repairing job, because, by reason of past misconduct, they could not obtain more desirable situations. Even here their stay was short. For a month, or perhaps six months, they would do well, and then a big spree would bring their employment to an abrupt termination.

It seems too bad to see these sociable, companionable men reduced to such straits at an advanced period of life; and, when reflecting on them, the thought has frequently struck me that an operator's life is one of great temptation, and one which eventually sends many fine spirits rushing down dark roads of sin and disgrace. I would not for any consideration wound the susceptibilities of my lightning-waffling friends by saying that as a class we are a little too fast, and partake much too freely of the cup that cheers and does inebriate; but when I see these gray-haired men with careworn features and wrinkled brows living a precarious existence, with no joys to enliven their existence but the one base thing which for the moment exhilarates, and then damns forever, such a thought will naturally arise. Having tried to show what becomes of a few of the "old men," I will subside

STRANGER.

New Application of Electricity.

The need of some cheap and convenient motive power for light work has long been evident. For running light machinery—sewing machines, scroll saws, small presses, etc.—many inventions have been devised which have been successful in some respects. Inventive genius long ago turned its attention to electricity as a cheap and powerful agent. But the great difficulty of inventors has been to convert cheaply the current of electricity into the power that will drive the wheels of the machine to which it is applied. A Brooklyn inventor, after years of experiment to secure this end, has constructed an electric engine. The machinery necessary to run an ordinary sewing machine needle through any thickness of cloth is contained in a box eight inches square and four inches deep. A small battery furnishes the electricity and may be at any distance from the machine, the distance governing the size of the wire connecting the two. The expense is small, as the battery is the only constant expense, and this costs only a few cents a day while in use. The speed at which the machine is run and the stopping and starting are entirely under the control of the operator, being governed by a switch on the cloth-plate. Its successful working has been shown in public.

An invention of a very different sort, but which depends upon the same agent, has been made recently by an inventor of this city. Silk culture has been retarded very much by the labor involved in unwinding the thread from the silk worm cocoon.

After softening the gluten which holds together the silk threads in the outer covering of the cocoon, they are wound off upon a reel. From their exceeding fineness they are very liable to break. This work involves close attention on the part of the person superintending it. Female labor is employed in this work, and the strands of silk from four cocoons are usually run out on one reel to form a single thread. One woman could not do more than attend at most to two reels. It has been claimed by many interested in the silk trade that no machinery could be made delicate enough to automatically watch this work. The attention of the inventor was drawn to this subject two years ago, and he has lately perfected his application of the electric current to this work. By running the strands over carefully balanced wires, when one breaks the wire drops into mercury and closes a circuit which acts on an electric stop in the reel. The work is thus stayed until the strand is spliced and the circuit broken. In this way the electricity watches the strands and the attendant has only to notice the reels and start them when they stop. In the old way not more than six pounds of silk could be wound in a week; by this invention it is claimed that forty pounds will be secured in the same time. The promoters of this invention hope by it to increase greatly the silk industry in this country. Owing to the cost of labor, cocoons are not reeled in this country to any great extent. They are raised here—none better it is claimed can be found elsewhere—and exported for reeling, and then much of the raw silk imported for manufacturing. A large amount will be saved if the cocoons can be cheaply wound off here. Particularly in the South, where the mulberry is common, it is believed that the culture of silk may rival that of cotton.

The Late Southern Epidemic.

At the annual meeting of the American Electrical Society, held in Chicago, Dec. 11th and 12th, the following resolutions were adopted:—

Whereas, Since the last annual meeting of this society Almighty God, in the development of His infinite wisdom, has permitted a portion of our fair country to be visited by a terrible epidemic, by which thousands of our fellow citizens have been brought to death, and tens of thousands caused to suffer and mourn; and

Whereas, We have individually cheerfully and gratefully shared in the provisions for relief through the ordinary channels of organized committees during its prevalence—

Resolved, That we hereby improve this, our first opportunity as a society, to express and record our deep and heartfelt sympathy with the afflicted families and all those who mourn the loss of friends and companions stricken down by the yellow scourge, especially of that large number who were attached to the telegraph service of the several telegraph and railroad companies.

Resolved, That we do also hereby express our profound admiration of the noble heroism displayed by those who, at the risk of life, in the face of death, remained faithfully at their posts of duty, and through untiring effort and unflinching zeal maintained the facilities for telegraphic communication to the press and the public when all other channels were deranged or interrupted. We commend those proud examples of personal heroism as worthy of emulation.

Resolved, That a copy of these resolutions be officially furnished to each of the principal telegraph offices at Memphis, Mobile and New Orleans, to the railroad superintendents of telegraph in the late fever district, and to the *Journal of the Telegraph* and *THE OPERATOR* for publication.

Compliments of the Season.

We receive from time to time many pleasant and complimentary letters from subscribers. Here are two, which came by the same mail, and which we take the liberty of publishing. Dozens like them might be quoted, but it is not necessary:

I desire to commend what I believe to be your honest efforts to elevate and instruct the craft. Your paper, or "our paper," is truly a welcome visitor.

W. H. JOHNSON.

WASHINGTON, KAN., Dec. 21st.
"Merry Christmas." Inclosed is money order for \$1.25, for one year's subscription for the only telegraphic paper ever published in America. Can you guess which it is?
WM. C. RAMSDELL.

NORWICH, CONN., Dec. 24th.

Echoes from 197.

Miss Emily Sweeney has resigned.

Miss Mollie Fitzpatrick works "N. F." wire.

Miss Cadiz has returned after ten days vacation.

Mr. and Mrs. Osgood Wiley visited the office a short time ago.

Miss Weeden has been transferred from the New Brighton, Staten Island office, to "197."

Mr. R. W. Pope has been appointed Deputy Superintendent of the G. and S. Telegraph Company.

Mr. William Benett of the Cleveland wire has left the service of the Western Union Company, and returned to his home in Canada.

Miss Dunphy, of Fredericton, who for the past few months has been telegraph operator at St. Andrews, has, at her own request, been removed to St. Stephen. During her short stay in the shire town of Charlotte, Miss Dunphy made many friends, and those having business with the office were pleased with her intelligence and prompt attention to duty. Master Fred Waycott has now charge of the St. Andrews office, in which he has for some months past been engaged learning the business. His brothers, William and Richard, graduated from this office, and their reputation as expert operators stands A. 1. Fred, for one so young, performs his work well, and, with a little more experience, will be able to hold his own with the best of them.—*St. John, N. B., Globe.*

"William" is Wm. B. Waycott, one of the cable staff at 197. He is not only a No. 1 operator, but one of the finest young men in the service.

Miss Ada Arbuthnot, for several years telegraph operator at the main office of the Delaware, Lackawanna and Western Railroad, and of late connected with the ladies' department at 197, died December 17th at her residence at Orange, N. J., of consumption. She was highly esteemed by all who knew her, and will be generally missed from her old post of duty. A relative of Miss Arbuthnot in a private letter says: "very peacefully, very quietly she passed away with most perfect consciousness, tranquility of mind, and freedom from pain. Tell her loving friends that she was ever talking of them, and bore them all in loving remembrance to the last."

Cincinnati Notes.

The Electrical Society of the Ohio Valley held its regular meeting on Tuesday evening, Dec. 17th. There was quite a large attendance, including a number of ladies. The regular order of business came first, during which the officers for the ensuing year were elected: Chief Op'r B. H. Johnson as President, I. A. Miller, Sup't M. & C. R. R. Tel., Geo. T. Williams, Sup't 7th District W. U. Tel., and Dr. Osmond, as Vice-Presidents. The programme opened with a song by the Double Quartette composed of eight singers besides the leader, all of whom, excepting two, are within the circle of telegraphy. Although a young organization, they certainly sang excellently, as the applause attested. Prof. F. W. Clarke, of the Cincinnati University, presented a lecture upon "Electrical Fishes" which was exceedingly interesting. He demonstrated the electrical organs in fishes as their weapons of defense, and the manner of using these weapons. He commented upon all electrical fishes which have, thus far, obtained any notoriety. The Double Quartette then followed with another song, which was heartily encored. Prof. James Powell next lectured upon "Electro-Metallurgy," favoring the audience with fine specimens of results accomplished.

The Society has started a circulating library of about twenty-five electrical and scientific works, and its finances are in a flourishing condition, which will enable it to make rapid addition. They also have chess and checker-boards, daily papers, *Scientific American*, *London Electrical Journals*, etc. The Society now numbers 104 members.

But to other subjects. Without desire to flatter, I will say that I have noticed the steady increase in size, quality and popularity of your valuable paper, and certainly think it should be a welcome guest to every operator. Its editor has, by his energy and perseverance, placed it upon a solid foundation, and the fraternity will hardly allow it to fall. The interest also taken in presenting other excellent publications should be encouraged, and is worthy of hearty support. "Christmas Evergreens" and "Lightning Flashes" are gems worth hunting for.

That sly young rogue, Cupid, has been getting his work in well of late, resulting in the capture of Charlie Higdon (Hg), of New York quad., and Newt. Foster (Fs), of Baltimore quad. They

have been grinning ever since their marriages, notwithstanding the trials and responsibilities which may be lying in store for them—may they be successful in dodging them all. I almost forgot Lou, Frazier, who quietly followed their example. I regret the scarcity, just at present, of items of general interest, but will endeavor to collect something for the next time, provided this one does not drop suddenly into the waste-basket, which would be a hint to the wise. May your paper continue to spread and become more appreciated. CHESTER.

Dashes Here and There.

What is greatly needed is a few thousand young men to learn telegraphy. The business is suffering for want of recruits. N. B.—This is sarcasm.

The telegraph has the same effect on the ambitious youth that the serpent has on birds. It first fascinates, then lures him on to his destruction.

"Have three rooms, and a carriage at the depot." The party who wrote this probably had an attack of the rheumatism, or maybe he was inclined to be room-antic.

Merit has at last been recognized and received its due reward. A young friend of ours has been promoted from the position of operator to that of director—of envelopes.

A private game park resembles the business in this respect, that in both cases the dears are surrounded by wires. The ladies will probably exclaim, "Oh, dears-akes alive!"

"Rogers & Orr on fire." This, at first glance, would appear to have been an Orr-ful calamity; a closer scrutiny, however, reveals the fact that the above was only a store-y—burned.

"It is in contemplation to make the receiving blanks such in reality. Hereafter the printed matter will be omitted, and that space will be filled in by the operator. It is expected that this will insure a great saving of ink-come."

It may seem strange, but is nevertheless a fact, that a young man can enter the business now, and in about a year's time not only understand it thoroughly, but draw larger pay than those who have become gray in the service.

An Italian has constructed a device by which he determines the purity of oils by the amount of resistance they offer to the passage of electricity. The apparatus may also reveal the presence of cotton or silk fabrics, for a very small portion of cotton in silk tissues greatly increases the conductivity of the latter.

After long study and many experiments, Professor Bell has made an important discovery in connection with the telephone. It is well known that the telephone has been a comparative failure in England on account of the fatal induction generated by the contiguity of other wires. Professor Bell has discovered simple and efficacious means whereby not only is induction prevented, but the clearness and force of the telephonic vocalization greatly increased.—*London Daily News.*

Mr. J. B. Stearns has just succeeded in duplexing the Anglo-American Cable by his ordinary condenser system. The balance he has obtained, we understand, is absolutely complete, and the working of the siphon recorder (the instrument employed) is just as perfect as it was when single working was employed. Considering the marvellous sensitiveness of the siphon instrument, this result is in the very highest degree satisfactory, and we congratulate Mr. Stearns on the success he has attained.—*Telegraphic Journal.*

After shivering about the "pool's" cold, ragged edge for the last few months, Dominion Telegraphers are made happy again by the announcement that the pooling scheme of the Montreal and Dominion Companies has "burst." Never before did this expressive little word sound so sweet to the professional as when coupled with that dreadful word pool. In the general office of the Dominion the boys were feeling so blue that the black ink they used changed to the prevailing color; the ludicrous bull caused but a sickly smile, and the patient, persevering plug was not rushed. But now that the agony of suspense is over, Richard will be himself again, and the approaching holidays will seem all the merrier for having safely passed the dark, cold pool. A Buffalo operator made the British Lion roar long and loud a few days ago, by relaying a message to "Philip" Lorne. Not accustomed to hear "Princess" over there. QUACK.

Sam Johnson.

This is one of the most entertaining books in the whole library of railroad literature. It is a series of well-told sketches and stories, relating to every phase of railroad life. Some are humorous—very humorous; some are thrilling and pathetic, and all are interesting. The book is written by a man who knows what he is talking about; he is a practical railroader, with a ready pen, and a quick eye for the salient points of a joke or an incident. A railroad friend to whom we lent a copy of the book writes us: "I am sure all those who are fortunate enough to receive one of these books will have to provide themselves with a patent truss of some kind to prevent spontaneous combustion from fits of laughter."—*Railroader and Railway Enterprise.*

PERSONALS.

The Eastern Telegraph Company's Superintendent at Candia, Crete, William Henderson, an Englishman, and a native employé of the Company were murdered outside the gates of the city Dec. 14th.

The San Francisco *Open Letter* publishes a portrait and biographical sketch of the late Bernard F. Kenny, of that city, telegraph operator, and workmen's delegate to the constitutional convention, a notice of whose death was published in last *OPERATOR*.

We are indebted to some one for a copy of *THE OPERATOR*, a journal of scientific and practical telegraphy, published in New York, by W. J. Johnston. It is a neat twelve-page paper, and is published semi-monthly. It sparkles throughout with wit and wisdom, and is immensely popular not only in telegraphic circles, but with the general public. *Richmond Va. Bulletin.*

Signal Service Observer and Operator James M. Watson, has been relieved from the management of Fort Craig Office, U. S. Military Telegraph Line, New Mexico division, by William T. Miles of the Signal Corps. Mr. Watson has been ordered to Washington for change of station. He is a competent operator, a good manager, and his many friends on the line regret exceedingly to part with him.

Mr. J. T. Alleen, formerly cashier of the Western Union Telegraph Company, and acting manager ever since the death of Manager Barnes, has been appointed manager. Mr. Alleen is a native of this city, an old time telegrapher, having been twenty years in the service of the Western Union Company. His promotion is a most opportune one, both for the company and the public, and congratulations are in order all around.—*New Orleans Times.*

COUNCIL BLUFFS.—The telegraphic force of this city at present is as follows: Messrs. Hills, Corcys, and Reed, "C. Pop" Reed of the U. P.; Davidson and Montgomery of the C. and N. W. R'y; and Foster and Crabbe of the C. R. I. & P.; Batchelder and Burhus of the K. C. and St. J. Harris does the work of the C. B. and Q. alone. Charley Fitch handles the press at "B." We had the pleasure of meeting O'Brien and Gardanier, the two portly gentlemen from Omaha, one of the small suburbs of Council Bluffs, not long since while on a visit to our metropolis. **OGLESBY.**

The following changes have taken place on the C. St. Land N. O. R. R.: B. F. Taylor transferred to night duty at Canton, Miss., W. E. Cross having been placed in charge of the depot office, Jackson, Miss. T. Wiener appointed agent and operator, Manchac, La., vice H. B. Hearn resigned. The place at passenger depot, N. O. made vacant by Taylor's transfer has been filled by R. B. Ayers, formerly of Brookhaven, Miss. The night offices on Morgans, La. and Texas R. R. closed on account of quarantine throughout Texas, have been re-opened, and business resumed. J. R. Hunter holds down Chacaboula, La., Thornwell Fay is at Bayou Boué, La. Charles Kleppinger still runs Terrebonne, J. B. Hunter of Holly Springs is spending the holidays at New Orleans. L. B. Mosby, former operator at Holly Springs subs during Mr. Hunter's absence.

MILWAUKEE.—John McGuekin, our delivery clerk, was married November 14th. Pete Cannon, an old Milwaukee boy now doing night report work at La Crosse, spent Christmas in this city, and received a warm greeting from his host of friends. H. J. Nevens, of Port Washington, called to see us a few days ago. We wish the boys would all do that when they come to town. Arthur Allen is at his post again on No. 2, after an absence of five weeks. Ed. Patterson left for Madison on the 23d, expecting to arrive home in time to hang up his

stocking. We hope Santa Claus will treat him well. Mr. W. H. Kelsey, our genial and good natured chief, received a splendid smoking set as a Christmas present. Ed Hickey was the donor. Since the new stove has been put up, we can take off our overcoats, and work with comfort. Repairman Lawrence Griebel received a splendid open face Elgin silver watch on Christmas, a present from his better half. Christmas passed off very quietly.

Referring to the commotion in Mr. Charley E. Stagg's household, the cause of which will be found in the "Birth" column of this issue, the *Elmira Gazette* has the following:

[Special to the GAZETTE.]
"WESTERN UNION OFFICE—1 p. m.—1 had a little special of my own this morning; boy; weighs ten pounds; first edition; will send over a smoke tomorrow. C—S—"

"The mystery is solved. Charley amply sustains the reputation of the lightning jokers, and we promise not to complain of our 'copy' again till the young heir has a chance to speak for himself, and apologize for creating all this excitement in editorial circles. In the meantime we'll take the smoke all the same. None of your five cent cheroots, Charley—a ten pound boy deserves a ten cent cigar; you can make it a couple if you choose—we mean the cigars."

Referring to a reception of the Can't-get-away Club of Chattanooga, Nov. 23d, at which attention was drawn to the services of the telegraphers of that city during the late yellow fever epidemic, the *Chattanooga Times* says: "Mr. Young, who was the night manager, was left on the night of the 27th of September with but two plucky fellows to help him in an office requiring nine operators. The two who staid were J. T. Riley and L. W. Bradley. Shortly afterward he was re-enforced by E. M. Hickey, H. G. Whallon, A. M. Pennock, S. Schwartz, J. P. Wooten, and John Terhune, who came here from various points in the North in the midst of the pestilence, and are still here and on duty. The company transmitted hundreds of messages free relating to the fever. But for it, and the noble fellows who served it in the South, the losses from destitution would have been greatly increased. Pretty well for a 'soulless corporation.'"

We are indebted to the Committee of Arrangements of the D., L. & W. Telegraphers' Ball for an invitation to their fourth annual sociable at Hackettstown, N. J., on New Year's eve. The D., L. & W. ball is always looked forward to with anticipations of rare pleasure, and the present one will be rendered even more entertaining than usual by an exhibition of the phonograph by Mr. W. K. Applebaugh, of this city. We have also a complimentary ticket to a "Grand Reception of Erie Telegraphers," at Washington Hall, Paterson, on Wednesday evening, February 5th. There is no reason why the Erie boys may not have as good a time as their D., L. & W. brethren, and if they do, and the Reception proves a success, they will doubtless repeat it next year. Old-timers tell us that many years ago there used to be an annual telegraphers' ball in this city. The organization, however, has gone out of existence, whether on account of the hard times or of internal disputes is not known.

ALBANY, N. Y., ITEMS.—The W. U. has opened a branch office in Greenbush, across the river, and Mr. Thomas H. Muddle has been placed in charge. Mr. Charles E. Arnold has vacated his chair in the main office, and opened a tobacco and cigar stand in the new Kenmore Hotel. Having had a similar place at Lake George for the past three or four years, he is thoroughly posted in the business, and we entertain no fears whatever regarding his success. While regretting the loss of a genial and pleasant associate in the operating room, our best wishes go with him. It is understood that arrangements are in progress to open a branch office at the Kenmore, in charge of Mr. Arnold. During the past few weeks several parties have been experimenting considerably with the electric light, in the Assembly Chamber of the new Capitol. We believe Mr. Hockhausen has thus far obtained the most satisfactory results, though not enough to cause the Commissioners to think it practicable to adopt the electric light in its present state. Mr. Charles E. Shelley, of this office, and Mr. W. D. Chandler, of New York, have changed places for a short time. We are glad to note the appointment of Mr. Frank A. Eastman, well known over East, in place of Mr. Arnold, resigned. **X. Y. Z.**

GRAND RAPIDS, MICHIGAN.—This thrifty village, with its forty thousand inhabitants and many operators is seldom if ever mentioned in *THE OPERATOR*. I have, however, taken upon myself

the liberty of mentioning the principal telegraphers in this vicinity who are attentive readers, and praise highly *THE OPERATOR*. Our Western Union here with its usual large amount of work runs smoother with the old timer Sam Watson as chief. Baker takes press with his usual grace. Charley Thompson is happy in dividing his time between the counter and the key, while last and by no means least, Mrs. Mars, who it is generally conceded holds her own with the rest, smiles happily over the detail wire. The A. & P. office, which is one of the nicest in the northwest, having leased the lines of the Grand Rapids and Indiana Railroad situated in the general office of that company, Chief Henry Sullivan, with his usual courtesy, can show you how nice work is done. Charley Russell, late of the west, rushes the boys on the Peteskin Division and Dandilac quad. Frank Hewitt is a genial boy, and with Billy Barrett wiles the hours away. Managers Ed Benedict and Wm. Fitzgerald are pleasant men, and successfully keep things straight. The ever-pleasant John Deem, train dispatcher on G. R. and I, uses his men well, and takes life easy. He is ably assisted by Jimmy Manby. Jim Hawkins, formerly employed by the G. R. and I. has recently been appointed ticket agent Michigan Central road, this place, which position he fills with satisfaction to all. **WILLIAM.**

OMAHA.—The two Georges—G. W. Dickinson and G. M. O'Brien, dispatchers on Bridge Division, Union Pacific Railway—moved into their new office December 1st, and seem to enjoy the change of base immensely. There are no changes in Dispatcher's Office, Eastern Division, this road. J. G. Boyd, assisted by Leonard Hohl and Henry Loasley, continue to manipulate and are giving satisfaction. At "M" office Mr. G. M. Myers and A. G. Drake work the wires, while "Spectacles" keeps the books and puts a stopper on any undue hilarity. In "Om" Western Union office, two new chiefs, Messrs. Curny and Shadagee, patrol the aisles and keep the professors of Morse from neglecting the dots and dashes. There is but one other acquisition to the operating force here, and, although it came near demoralizing the crowd, they have survived and are rapidly recovering; but who can tell what scars will remain to show the result of the impetuous, though vain strife for favor? The new comer is a lady. (Gone is the glory of old times, when if a man said "there would be a time when ladies could work in Omaha," he would be instantly ground and by no small majority.) Miss Julia E. Davis is assistant on Atlantic & Pacific. Williams, Griffith, Fisher, Gardanier, the electrician; McNevis, the fast; Pap Armstrong, Ritchie, Mayne and the two hundred and fifty pound Stone make up the force, and the amount of work done here would justify any one in saying that they were all good ones. Mr. F. B. Knight has returned from the Convention of the American Electrical Association, and thinks this was the most interesting meeting ever held by them. Your correspondent not being able to attend feels rather sad in consequence. Frank Farley, "Little Frank," that once was, but now a six-footer, has taken up his headquarters here, and has been added to the regular force at Omaha.

BIRTHS.

Dec. 16, at Elmira, N. Y., to Charley E. Stagg, State press operator, a son.

Dec. 30, to Mr. Herbert M. Pepper, W. U. Tel. Office, Springfield, Mass., a daughter.

MARRIAGES.

EDWARDS-DUTTON.—On Christmas Day, 1878, in Portland, Conn., by the Rev. Wm. B. Lee, Mr. Charles H. Edwards, Operator at Portland, to Miss Annie Dutton.

LANEY-SHERMAN.—Dec. 23d, at the residence of the bride's father in Woodlawn, near Augusta, by the Rev. Mr. Jarrell, J. L. Laney, night chief W. U. Telegraph office, Augusta, Ga., to Miss Anna E. Sherman of same city.

DOUGAN-KNOX.—December 24, at the residence of the bride's parents, St. Paul, Minn., Mr. Hedley W. Dougan, train dispatcher St. P. and P. R. R. to Miss Mollie Knox, both of St. Paul. Mr. Dougan and his fair bride have our best wishes for a long and pleasant journey through life.

DEATHS.

HOLMES.—Dec. 20, James B., youngest son of Charles M. Holmes, of W. U. main office, aged five years, six months and eight days.

A. G. DAY,

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have been thoroughly tested and its superiority over all other kinds of insulation fully demonstrated.

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has been demonstrated beyond question in practical use of thousands of miles of Kerite covered wires by the Fire Alarm and Telegraph Companies. In the city of New York it has been largely used for the last TEN YEARS, under all conditions and exposures, and its resistance now is as great as when first exposed.

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KERITE is not injuriously affected by extremes of heat and cold experienced in any climate, nor by length of exposure in the atmosphere.

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The action of water, salt or fresh, not only protects all its qualities, but very much improves its insulation.

It is also unchanged by being placed in the ground. Any corrosive elements in the earth do not act upon it; nor is it injured by the roots of plants, which soon destroy gutta-percha.

Acids act very slowly upon it, and then only to the extent of oxidizing the surface.

It will bear exposure to hot, strong solutions of alkalis without injuries.

Mineral oils and illuminating gas, so far as known, do not produce any serious effect upon it.

Exposure in a city gas pipe has not injured it.

Thorough experiments have shown that it does not suffer injury by the most destructive insects of land or water.

Samples of the core or insulated conductor of Kerite cables have for a long period been laid in the Caribbean Sea, yet the "teredo," which would have speedily destroyed other cables thus exposed, has left these entirely unharmed. And experimental lines on the Isthmus have been equally exempt from the ravages of the white ant, which destroys wood telegraph poles so rapidly that iron poles have been substituted.

The same qualities which rendered it so indestructible by all corrosive agents, insures its durability for an indefinite period in all climates.

It can be stored in tropical climates without change of insulation under circumstances which would rapidly deteriorate and destroy the essential qualities of gutta-percha and vulcanized india-rubber.

The Kerite-covered wire is used almost exclusively by the United States Navy Department in the torpedo experiments which have been going on during the past three years. Prof. Farmer, the Government instructor, says of it, "It fulfills the conditions required in the torpedo service better than any insulator with which I am acquainted."

EMINENT ELECTRICIANS AND PRACTICAL TELEGRAPHISTS commend and recognize the Kerite insulation as superior to all others.

GEO. B. PRESCOTT, Esq., Electrician of the Western Union Telegraph Company under date of Sept. 25, 1874, says:—"In September, 1869, we placed some of your Kerite wire, unprotected by any covering whatever, in the tunnel under the river in Chicago, and have since continued its use in that exposed situation with the most gratifying results. A portion of the tunnel is very wet, and water saturated with lime constantly drips upon the wires, while in other portions they are kept alternately wet and dry, which is well known to be one of the severest tests that any insulating material of an organic nature can be subjected to; and yet, after five years' exposure, under the above conditions, the Kerite covering shows no signs of decay or deterioration. An insulating covering of india-rubber or gutta-percha under a like exposure, would have been destroyed in much less time."

February 12, 1877, he writes further, "This piece of Kerite wire, unprotected by any covering, was in use in the tunnel under the river in Chicago from Sept. 1869 until December 1876, and shows no signs of decay or deterioration in its insulating qualities."

Prof. MOSES G. FARMER says, "I have used your Kerite as leading wire more or less for four or five years. It stands abuse, changes of temperature, alternate wetting and drying better than any insulator I have tried."

Messrs. GAMMELL & Co., proprietors of the American Fire Alarm and Police Telegraph have used the Kerite wire for ten years. They say: "We have placed it in use in some sixty cities extending from Halifax, Nova Scotia, on the north to New Orleans and San Francisco on the south and west, embracing every variety of climate, and it has proved itself to be, under all circumstances, the most reliable and indestructible insulator known to us for telegraphic purposes."

Mr. M. A. HARDY says: "I have used it not only in this country, but also in Egypt, where it was subjected without injury to the most severe treatment. * * I also had the Kerite cable for several months in the Mediterranean Sea, and always found it reliable and unaffected by the ravages of 'teredo.'"

Many other equally favorable and satisfactory commendatory letters are in the possession of the proprietor.

At the Centennial Exhibition at Philadelphia, Sir WILLIAM THOMSON, the eminent electrician and scientist, awarded to the

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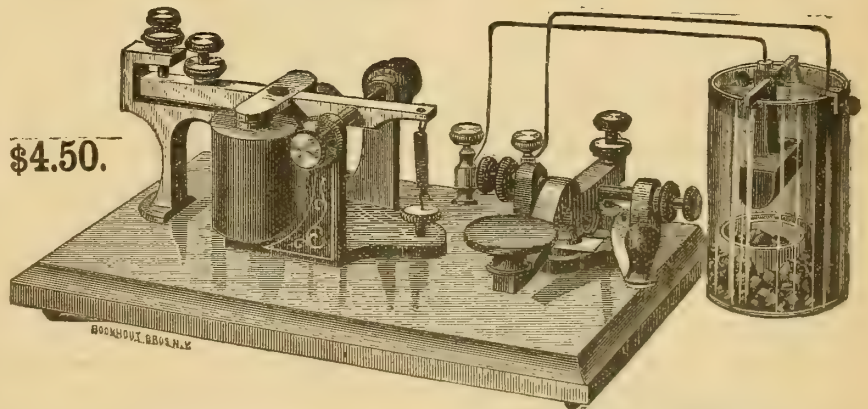
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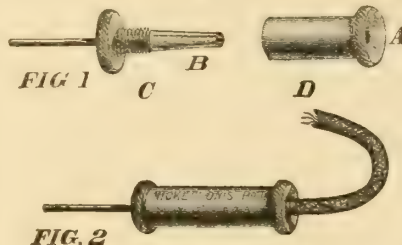


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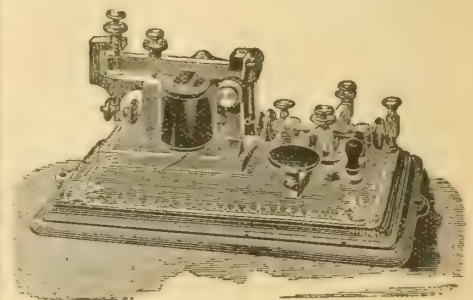
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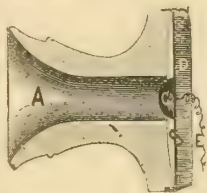
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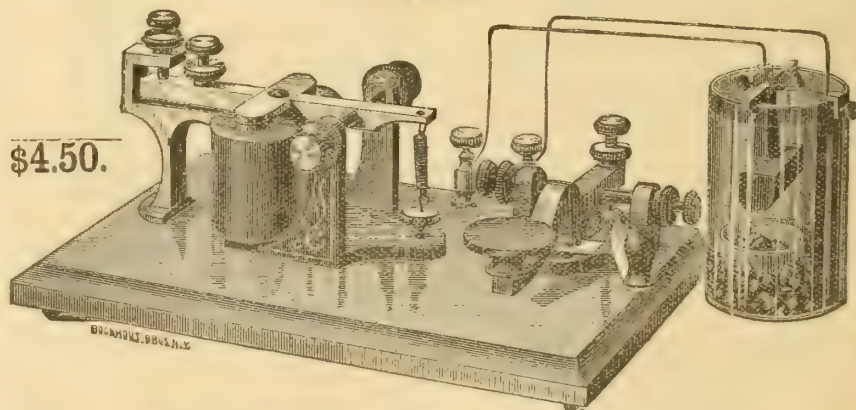
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THE OPERATOR

A JOURNAL OF
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January 15th, 1879.

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Whole No. 118.

Champion Jim Lee.

One day, late in the season of Seventy-three,
To a far Western city came tramping Jim Lee;
An old timer was Jim, tho' his age was not great,
Only counting in summers some thirty-and-eight;
His trousers were tattered, his shoes were all out,
And his frame, from much fasting, was not very stout;
He had lost his last job through a fondness for tea,
Yet famous was Jim as a knight of the key.

To the manager quickly he wended his way,
And applied for a job quite regardless of pay.
It so chanced that the chief just at that very time,
Was in need of a man for his fast Eastern line,
So the manager, looking Jim over with care,
And having a moment of leisure to spare,
Decided to give him a test at the key,
And perhaps raise a laugh at the expense of Jim Lee.

He led him up stairs to the instrument room,
Where twenty brass pounders in feather and bloom
Smiled with contempt at his seedy attire,
As the chief sat him down to the fast Eastern wire;
The manager slyly slips round to the switch,
And quick to the tester a wire doth hitch;
He calls for the chief at its furthest end,
And tells him on "forty" his best man to send;
"Instruct him," said he, "to sling 'em right in
To a tramp we have here whose first name is Jim."
Jim picked up an old rusty pen from a cluster,
Slowly answered his call, and remarked "I'm your
oyster."

The plugs gathered 'round him to witness the "roast,"
The heads of the bosses being front and foremost;
Then the champion fast sender with vengeance began
In his most rapid style to rush the old man;
The sounder it snapped as tho' Old Nick was in it,
Rattling out some forty or more words a minute,
The dots and the dashes came pat'ring like rain,
As faster, and faster the messages came;
Jim took 'em all in, putting down every dot,
Making gilt-edged copies without blemish or blot,
Passed the twenty-fifth message with never a break,
Then thirty and fifty, not a word had he spake,
When at last the glib sender having emptied his pouch
Slowly ticks out the sentence, "You are no slouch;
They told me that I was to roast you up fine,
But the roast is all on this end of the line."
Then the plugs slunk away to their corners in grief,
While the manager whispered apart to the chief.

The conference over, Jim was called to the front,
And tendered an even one hundred a month;
To which proposition he was not loth to agree,
And still he's the champion knight of the key.

W. H. P.

The Inside History of the Proposed Pooling Arrangement.

Below will be found a very full synopsis of the correspondence between the Montreal and Dominion Telegraph Companies in regard to the proposed pooling arrangement. One cannot read the correspondence without being struck with the manly, straightforward tone of Mr. Gibbs' letters, and of the action of the Dominion Company in the matter. The same can hardly be said of the other side, looking at it from an uninterested standpoint. Telegraphers, however, will be pleased to see that the negotiations have fallen through. The more opposition there is, the better it will be for the interests of both telegraphers and the public. Sir Hugh Allan, at the annual meeting of the Montreal Telegraph Company, a few days ago, said he considered that the Montreal Company had little to gain by the pooling arrangement; some 900 offices were working on commission, and no saying could be effected on these, and he did not think an amalgamation with the Dominion Company would repay them for the risk they incurred. If the matter of a pooling arrangement ever came up again it would have to be in an entirely different shape.

On Saturday, September 28th, Captain Mayne, R. N., a Director of the Direct U. S. Cable Com-

pany, had an interview with the Hon. T. N. Gibbs, President of the Dominion Telegraph Company, and informed him that he had come from Montreal, where, with the concurrence of the Western Union Company, he had been to see Sir Hugh Allan, President of the Montreal Telegraph Company, in regard to the possibility of bringing about a pooling arrangement between the Montreal and Dominion Telegraph Companies, on a similar plan to that existing between the Anglo American and Direct U. S. Cable Companies, and between the Western Union and Atlantic & Pacific Telegraph Companies; that he had found Sir Hugh Allan and his co-Directors of the Montreal Company favorable to such an arrangement; and that he was authorized to say so on behalf of that company, and that if Mr. Gibbs had no objection, Sir Hugh would be glad to have an interview with him upon the subject. Thereupon Mr. Gibbs consulted with his Board, which was then sitting, and was authorized to meet Sir Hugh Allan as proposed.

Accordingly Mr. Gibbs met Sir Hugh at the Windsor Hotel on October 4th, and after the interview, telegraphed to Mr. Swinyard, Managing Director of the Dominion Company, that such progress had been made between them that it was desirable for him to arrange at once to meet them at Montreal. On the same evening Mr. Swinyard proceeded to Montreal, and on the afternoon of the next day he and Mr. Gibbs met Sir Hugh Allan at the Windsor Hotel. At this meeting the question which had brought the parties together was very fully discussed. Sir Hugh proposed that the division of gross earnings between the two companies should be:

½ds to the Montreal Co., and
½d to the Dominion Co.

While Mr. Gibbs proposed that the proportions should be

65 per cent. to the Montreal Co., and
35 per cent. to the Dominion Co.,

but on Sir Hugh stating that the offer he had made must either be accepted or refused, as his Board had come to a fixed determination in the matter, Mr. Gibbs and Mr. Swinyard consulted together, and accepted the proposal.

Mr. Swinyard was then requested to prepare for signature, on the following Monday morning, a memorandum of the points that had been agreed to—an appointment being fixed with him at 11 o'clock at Sir Hugh Allan's office for that purpose; Mr. Gibbs returning home meantime. The memorandum was submitted by Mr. Swinyard to Sir Hugh Allan, at the appointed time, and is as follows:

"The undersigned having met to consider whether any and what beneficial arrangements can be entered into for the more economical and profitable working of the two corporations, do hereby agree to recommend that an agreement on the following basis be at once entered into between the two companies:

"1. That the independent organization of the two companies be separately and distinctly maintained, but that for the purposes above described the gross earnings of the two companies from all sources be thrown into a common fund, or joint purse, and be divided between the parties in the following proportions, viz:

To the Montreal Tel. Co., ½ds.
To the Dominion Tel. Co., ½d.

"2. That the duration of the agreement be for twenty-one years, dating from the 1st January, 1879."

When Mr. Swinyard submitted to Sir Hugh Allan, as arranged, the above memorandum, he was requested by Sir Hugh to leave it with him until 4 o'clock for consideration, Sir Hugh stating that since the meeting on the previous Saturday Capt. Mayne had intimated to him that it was not absolutely certain that the Direct Cable Company would carry out certain guarantee agreements with the Dominion Company. At 4 o'clock the following amendment was proposed by Sir Hugh, but not assented to by Mr. Swinyard, as no such intimation had been made either to himself or Mr. Gibbs:

"As the basis on which this proposed arrangement is founded arises from the published gross receipts of the two companies, in the reports of the last year, and on the assurance of a receipt into the pool from the Direct United States Cable Company, under its agreement with the Dominion Telegraph Company, of a subsidy amounting to a certainty of £2,500, and a possibility of £4,000, before any final arrangement is come to, each company shall have the power to examine the books and statements of the other company by an accountant, to verify the gross receipts for the past year as shown in the

annual report; and this contribution or subsidy, to be obtained from the Direct Cable Company into the pool, shall be assured, and form part of the agreement."

At a subsequent meeting between Messrs. Gibbs, Swinyard, and Sir Hugh Allan, the latter announced that a discovery had been made that the Montreal Company's published annual report did not include its entire gross earnings for 1877, upon which his proposition of ½d to the Dominion had been made; that the difference amounted to several thousands of dollars; and that before he could go on with the negotiations, it would be necessary for him to ascertain the amount of earnings under-published and again consult his Board, which he would do the next day.

Sir Hugh afterward wrote Mr. Gibbs as follows: "The Directors of the Montreal Telegraph Co. have had another meeting, at which the whole subject was brought up and discussed. They desire me to say that they are still of opinion that the proposed arrangement should be made; but that in consequence of the important increase of gross receipts which it has been ascertained the Montreal Telegraph Co. received during the last year, and of your refusal to acknowledge the £2,500 stg. from the U. S. Cable Co., they now propose that the pooling arrangement shall be on the basis of

½ths to the Montreal Telegraph Co., and

½ths to the Dominion Telegraph Co.,

the Montreal Telegraph Co. retaining its own real estate, with all rents and advantages arising therefrom. If this is not acceded to, I propose that an examination of the books of the two companies, to ascertain the relative gross receipts for the year 1877, be had by a properly authorized person; and that this shall be the basis of an agreement."

In reply Mr. Gibbs wrote:

"Under the arrangement you propose the gross earnings for distribution between our two companies (taking the D. U. S. agreement with us, and the \$40,000 additional gross earnings of your company into account), would form a total of \$724,059; the relative proportions of which, to each company, under your amended propositions, would be as follows:

½ths to the Montreal Co. \$530,977

½ths to the Dominion Co. \$193,082

\$724,059

which, while adding only \$52,500 to the joint pool, would give to the Montreal Company an aggregate increased receipt of \$83,271, while it would reduce the receipt of the Dominion Company by \$80,771. This proportion appears to me to be a very unfair and inequitable one, and I cannot but think that on a reconsideration of the facts, you will arrive at the same conclusion.

"Having to-day received a telegram from Capt. Mayne, assuring us that he will now recommend his Board to carry out the agreement as drawn up and signed by him and Mr. Swinyard, on behalf of our two companies, we will guarantee that it will accordingly be executed, and that all the benefits to accrue under it shall form part of the gross earnings of the Dominion Company, and be accounted for by them to the joint purse fund; and further, in consideration of the unpublished increased gross receipts of the Montreal Company, which you estimate at \$40,000 or thereabouts, and which will be added to the joint purse fund, the Dominion Company will accept the following divisional readjustment:

70 instead of 66½ds per cent. to the Montreal Co.,

30 instead of 33½d per cent. to the Dominion Co.

"It must, I think, be obvious to you that it would be impossible for us to accept less than this, because our present position, which is an improving one, would be preferable to any compromise that would give us a lower proportion."

The Directors of the Montreal Company, however, still adhered to their old proposition. Sir Hugh Allan also announced that the actual amount of extra receipts over and above the published statement which his company could fairly claim was \$25,000, and not \$40,000, as was supposed.

The Dominion Company was quite as firm in regard to the proposition it had made, and the matter was finally left to Capt. Mayne, who decided that the share of the Dominion Company was to be 30 per cent. of the gross earnings from all sources except real estate. This award was approved by the Board of Directors of both companies.

Capt. Mayne's award was rendered November 1st. On the following day Mr. Swinyard sent Sir Hugh Allan the following communication:

"DEAR SIR HUGH—I have made arrangements to

officially open our Maritime Province Line, through-out, on Tuesday next, the 5th inst., and have given instructions to charge a through tariff to and from the Upper Provinces of 30 cents and 2 cents and on night rate. This tariff is as high as we can prudently charge, having regard to the general rate of 25 cents and 1 cent which we have hitherto charged over the rest of our system. Bearing in view the friendly relations now established with your company, and through you with the Western Union Co., will you kindly intimate these arrangements to Dr. Green, so that the change may be made by all the companies at the same time?"

The Montreal Company seemed to be dilatory in the calling of a special meeting of the shareholders of both companies. On December 5th Mr. Gibbs received the following communication from Sir Hugh Allan, dated December 21: "My Board of Directors feel that, under the circumstances in which these companies stand, it would have shown a proper feeling had you consulted with this company with reference to the reduction in rates you have made; and I confess my own opinion is that there has been rather a want of courtesy shown in this matter; and that your action appears to have been taken more with a view to competition and injury to the Montreal Telegraph Company than any desire to benefit either the one company or the other, either at present or in the future. The reduction in the rate to Nova Scotia should not have been made at the time it was; and while negotiations were in progress between the two companies, it would have been better to have left it over to the action either of the Board of Directors themselves, or of committees appointed by them. The feeling of the Board of Directors of this company is that their interests will scarcely receive fair play if they were to be treated in the manner indicated by these reductions, more especially that in which you appear to have reduced the charge from Ottawa to Boston and New York to a gross sum of two cents in place of three cents, as has hitherto been the charge."

"P. S.—After a good deal of consideration, I am of opinion that the true way to overcome all difficulties in connection with any scheme by which the two companies were to be united, would be to amalgamate the stocks under such an arrangement for valuation as would be equitable to both."

To this Mr. Gibbs replied as follows:

"1. In reference to the opinion which you state you have formed that there has been a 'want of courtesy' shown you in the matter of the Maritime Province Tariff, I am desired by my Board to say that after what has already been shown to have really been the case, they do not feel that you have any ground whatever for entertaining such an opinion."

"2. As to your allegation that our action was 'taken more with a view to competition and injury to the Montreal Telegraph Company than any desire to benefit either the one company or the other, either at the present or in the future,' my Board are simply astonished that such an unworthy accusation should have been made. They indignantly disavow the existence of any such malicious feeling or intention, and are quite content to let the facts already recorded speak for themselves in refutation."

"3. With regard to the intimation conveyed by you from your Board, that they 'feel that under the circumstances in which these companies stand, it would have shown a proper feeling had you (the Dominion Company) consulted with this (the Montreal) Company with reference to the reduction in rates,' I am to express the conviction of my Board that your Board will be under a very different impression as to your company not having been consulted, if they will be so good as to take the pains to read Mr. Swinyard's letter to you of the 21 November, and his further letter to you of the 14th November, inclosing not only a message from Capt. Mayne stating that he was present when the rate of 30 and 2 cents was fixed upon between you and Mr. Swinyard, but also inclosing a letter from myself to him, showing that the whole question of the Maritime tariff had been previously and fully discussed between us, when you urged that even a lower rate than the 30 and 2 cents should be charged. If further evidence were required by your Board that it was our desire to act fairly and in harmony with your company, and not antagonistically and maliciously as now so wrongfully alleged, it would only be necessary to point to the fact that although our Maritime Line was completed and ready for work on Friday the 1st November, we actually, at considerable loss to our company, delayed formally opening it for public business until

the following Tuesday, the 5th November, in order that you might have ample time to make arrangements with the Western Union Company. If you really considered that your position in the matter was mis-understood, as you have since intimated was the case, my Board think it most extraordinary that you should have allowed Mr. Swinyard's letter to you of the 2d November to go unchallenged, and the rate to be put into operation three days later on, and at the time fixed upon, without in any way signifying your non-concurrence."

"4. As regards the Press rate from Ottawa to Boston and New York, I observe you complain that it has been reduced by my company from 3 cents to 2 cents per word. Now, surely you must be aware that there never has been any agreed rate between our two companies for this business; and therefore, if the fact were as stated, there could be no ground of complaint of bad faith against my company; but you are mistaken about the rate itself. Our charge has never within my recollection been more than 2 cents; and if my recollection be correct, the complaint—if any complaint under the circumstances could be made—would be against your own company; for on the very day your letter (2d December) was penned, our manager at Ottawa advised us that your company had offered a rate of one cent and a half, and that it would be necessary for us to do the same, or lose the business, although the correspondent had instructions from headquarters to use our line."

"It was because of the discovery you made that the gross amounts received for market and news reports had not been included in the gross earnings for the year 1877 published by your company, that you claimed, and I conceded, a reduction in the proportion of $\frac{1}{3}$ of the gross earnings from all sources, which you at first agreed to give my company. The proposition now made, not to include in the 30 per cent. division these earnings—said by you at first to equal about \$40,000, and afterward about \$25,000, and on account of which you obtained the reduction from the $\frac{1}{3}$ proportion—is so preposterous, and evinces such a disregard of scrupulous good faith in respect of the reference to Capt. Mayne, whose award both parties agreed to accept as final and binding upon their companies, that my Board cannot refrain from expressing their surprise that it should have been submitted to them, and still greater surprise that, if submitted, it could be seriously thought possible that my Board should have such a feeble estimation of the interests of the Dominion Company, as for one moment to entertain it."

"So likewise with regard to the draft agreement submitted to you, we feel the amendments you propose are so at variance with the arrangements hitherto contemplated, and so palpably one-sided and destructive of the maintenance of the independent organization of the two companies, which, from the outset, has been so clearly stipulated for by both, that we have come to the conclusion—and particularly after the postscript in your letter which proposes an absolute amalgamation of the two companies—that it is in vain to hope that the object can be attained for which so much effort has been made, and so much time given—unless, perchance, your Board, upon a reconsideration see it to be to the interests of your company at once to carry out Capt. Mayne's award in good faith, and also the memorandum of agreement, *pure et simple*, we submitted to you; and which arrangements only my Board are prepared to recommend to their shareholders."

The following is Sir Hugh Allan's reply to Mr. Gibbs:

MONTREAL TELEGRAPH CO.,
MONTREAL, 16th December, 1878.

DEAR SIR—I have to acknowledge receipt of your letter dated the 10th inst., from which I gather that your Directors are not disposed to enter into the pooling arrangement on the terms submitted by this company. Under these circumstances it is unnecessary to enter into any discussion as to the previous conversations and *pour parlers* that passed between us relative to the terms proposed by either side; but I cannot close this correspondence without denying the correctness of your version of the conversations that passed between us on the subject. They are in a large measure incorrect, and attribute to me views which I never entertained, and sayings which, to say the least of it, are very highly colored; but, as it would tend to no good to perpetuate the discussion, I have only to say that I am,

Yours truly, HUGH ALLAN, President.

The following is the final answer of Mr. Gibbs to Sir Hugh Allan:

DOMINION TELEGRAPH CO.,
TORONTO, 19th December, 1878.

DEAR SIR—I have to acknowledge your note of the 16th inst. My reference to your part of the recent negotiations are supported beyond the possibility of successful contradiction by the written evidence as well as by the recollection of the other persons concerned. I repudiate with indignation the charge you make, in conveniently general terms, of incorrectness in my statements, and I am confident that all who dispassionately read what has been written will concur in the view that your accusation is as unfounded as your conduct throughout the business has been indefensible.

Yours faithfully, THOS. N. GIBBS, President.

Telegrams in the Court Room.

A Committee of Congress is about to investigate the cipher telegrams sent during the late Presidential Campaign. It is well known that the translations of many of these cipher dispatches have been published, and that they show an audacious attempt to secure the Presidency by purchasing votes at good round sums. A Committee who should engage in an endeavor to investigate a basketful of cipher telegrams according to rules of legal evidence, says the *New York Times*, referring to the matter, would soon find themselves confronted with questions quite as abstruse and difficult, though not so obvious, as the one of translating the cipher. Similarly, whenever business engagements are made by telegraph, and are afterward brought into courts for settlement, there is much embarrassment about proving the facts which the telegrams show. To apply the old-fashioned rules of evidence to telegraphic dispatches is quite impracticable without some modifications, and the courts are not yet through with the task of determining what modifications shall be allowed. A telegram is produced offering a bribe of "best United States documents," or ordering six boxes common and two extra shipped at once, or saying, "sell my maize and buy rye." Assume you have ascertained beyond mistake that "documents" means greenbacks, what goods are meant by "common" and "extra," or that "maize" and "rye" are stock-brokers' private signals for Maine Central and Rock Island shares; there is still much to be done before courts will accept the dispatch as a proper foundation of any decision. The little strip of paper may convince nine out of ten of men who see it, yet fail entirely of satisfying a court. How bring it home to defendant? The handwriting does not aid, since the telegraph, as the old lady lucidly explained, does not forward "the letters themselves, but only the writing in a fluid state." You call upon the company for the original of the dispatch, but perhaps it is lost, or the operator says it is confidential and he will not produce it, or when it is produced, it is not in defendant's handwriting, and no one can tell whether he authorized it to be sent or not. You ask him, and he declines to testify against himself or—lies. If it bears his name, perhaps it was forged; if another one, perhaps that is fictitious. Or if defendant was the receiver, you trace the message to the house where the boy left it for defendant, but no one can be found to say that it was ever given to the man himself.

Some of these difficulties and embarrassments have been passed upon in the courts. Three or four cases have arisen in which operators or secretaries have refused to produce the original dispatch on the ground that it is confidential business and they are bound to secrecy; but the decisions have been that there is no privilege; the courts have discretionary power to require operators to testify if the ends of justice render it necessary. In an English case and in a Pennsylvania case, the lawyer who objected to the question put to the operator relied upon a statute which forbade in very explicit terms any telegraph officer or operator to disclose the contents of dispatches; but the Judges said that made no difference. The statute was not meant to interfere with examinations in courts of justice, but only to protect persons employing the telegraph from having their communications wantonly or maliciously or corruptly revealed by the employees.

Taking it, then, to be the law that in all proper cases a telegraph operator may be called upon to produce the dispatch as written by the sender, there is yet a perplexing question peculiar to telegraph business: Which is the original—the dispatch which A wrote and handed in at the office at one end, or the one which the operator wrote out and delivered to B? They will often differ by mistake in the transmission. But suppose they do not differ, which one is the original which must be obtained

and produced? This question is answered in the courts differently in different cases, according to whether the sender or the recipient is the person selecting the telegraph as the means of communication. For one who, to save time, chooses the telegraph instead of writing, ought to be considered as taking the risk of mistakes, rather than the one who, having had no choice in the matter, receives the message.

Also, the decision may depend on whether the recipient is suing the sender to charge him upon the message he sent, or is endeavoring to justify himself by showing that he acted according to the message he received. In a majority of cases the message as the sender wrote it is the original, and this is the one which must be hunted up and exhibited to satisfy a court. In special cases the paper delivered is the original. Where a person telegraphed directions to a sheriff as to what he should do about a sale of certain property, and sued the sheriff for not obeying the directions, the court held that the message which was handed to the sheriff was the legal original, for the sender made the telegraph people his agents, and was responsible for any changes they made in his message, just as much as a merchant who should dictate a letter would be responsible for any errors of his clerk in writing it. The sheriff was only bound by the message as it reached him. If the suit were to recover damages from the company for a mistake in transmission, both transcripts of the message might be needed.

A great variety of questions arise in respect to whether messages were, in fact, sent and delivered as they appear to have been, or must every little fact about the transmission be proved by calling witnesses. And the courts are, upon the whole, coming to the rule that they will act in part on the probability that telegraphic business is conducted with regularity, accuracy and success, and will call upon whoever disputes the transmission of a message which appears all right to prove his objection. If it has been proved that a telegraphic message was sent, there is as good reason, so the court held in one case, for presuming that it was received as there would be in the case of a letter sent by mail; if it was not received, let somebody be called to show that. There was a case where a provision dealer wanted to send a drove of hogs to St. Louis, and he telegraphed to a steamboat by her name to ask if they could be carried. He got an answer back, "Will take your hogs," signed in the name of the captain of the boat. But when the time came the boat would not take the hogs, and he sued for breach of contract. On the trial he had no witness to prove that the dispatch was signed by authority of the master or owners. But the court said it was an answer to a question which was telegraphed to the boat, and, therefore, it was probably sent by authority from the boat. The court would presume that it was authorized; if it was not, the boat owners might show the negative. And on the trial of Gen. Babcock, the court received telegrams in evidence that were addressed to him, and traced by witnesses as far as the door-keepers of the White House, where he attended as private secretary of the President, without any proof that they were actually handed to him. That was so probable that it might be taken for granted until some one denied it.

Two Suggestions for Improving the Condition of Operators.

I have been thinking for some time how we, the practical telegraphers, might in some manner become independent, or, at least, rich enough to enable us to drop out of the business and into something better. Of course, no scheme can be devised by which all of us can become suddenly wealthy, but I believe I have hit upon a plan that will, yearly, enrich four or five of our number to the extent of five thousand dollars each.

Years ago I tried hard to have all telegraphers at work at the key (excluding all officers above and including chiefs) make a monthly deposit of one dollar, or twelve dollars a year. This deposit subject to the draft of a committee appointed by the operators themselves. This committee of three or more to purchase Western Union stock each year with the money so deposited. Then the committee to appoint one of their number to vote this stock at the elections for directors of the Western Union Company. Had this been started as far back as '63, do you not think that by this time we, the operators, would have had a voice in the management of the company? The delegate representing this stock would, of course, represent the telegraph operators

as well. All persons being members of this body of telegraphers who should receive appointments to positions of authority, or who left the service voluntarily to engage in other business, should forfeit all right to a voice in the matter unless they should return again to the "table." It would not have benefited any one particular person financially, but I believe it would have benefited all at present engaged in the business, as well as those yet to come. Then we could have, in time, control of, or at least great influence in the management of the company, and could exclude from the operating room all applicants for positions not up to the standard, thus preventing "college students" and "cheap men" from cutting salaries. At the same time we would have the interest of the company more at heart than now. I, for one, do not believe that it is yet too late to begin, and although we at present engaged in the business may not reap any great amount of benefit therefrom, those to come would so reap, and the profession would become purified, and would rise to a higher standard. This, I think, is a slow way, but a sure one, out of the mire into which we are rapidly sinking.

Another scheme which I more particularly wish to place before the fraternity through the medium of your valuable journal, is what I call a "Death Insurance Society," or, in other words, a society for the purpose of distributing five thousand dollar prizes yearly to living operators, that they themselves, as well as their families, may enjoy it without having to die that their heirs may come into possession of it.

I propose that every telegrapher not holding a position of authority throughout the United States and Canada, whether employed on private, railroad, or commercial lines, shall remit monthly to such person of responsibility as may be selected by a majority of us, the sum of fifty cents, or six dollars a year. That the said person of responsibility so selected shall, on the first day of December of each year, furnish every person who has so remitted fifty cents each month a certificate acknowledging the same, said certificate to bear a number similar to lottery tickets. On the first day of December of each year a committee of five shall also be selected for the purpose of deciding, by drawing from a box containing corresponding numbers to those of the certificates issued, a number or numbers. The holder of the certificate corresponding to that drawn from the box shall be telegraphed by the treasurer on New Year's morning that he can draw at sight for the sum of five thousand dollars, the draft to be accompanied by the certificate, as well as a certificate of his superintendent, manager, or other proper authorities, that he has resigned his position as operator, and that the same has been accepted. For every five thousand dollars in the treasury on the first day of December, or the day of drawing, there shall be a prize of that amount. The expenses of the committee, treasurer, etc., to be deducted equally from the prizes drawn.

This, if carried out, would turn loose from the fraternity many operators, giving their places to those less fortunate, and making them, the successful ones, a very handsome New Year's gift. I, for one, am ready to remit and start the wheel of fortune. Let us hear from others.

JOSHUA.
Cincinnati, O., January 6th, 1879.

A Telegraph Messenger's Pedestrian Feat.

Stamford, Conn., boasts of a telegraph messenger who deserves encouragement. Delivery clerks will be interested to know that it makes little difference to this young man, whose name is Johnnie H. Swan, whether a message is to be delivered two miles from town, or two rods from the office. He is ever ready with cheerful countenance whether the distance is far or near. In this respect, by the way, he differs from some messengers with whom we have had to do in years gone by. It is even said of him that when he had a message to deliver only a short walk from the office, and a companion had one to bring three or four miles, he would exchange messages and prefer the longer distance, often returning to the office simultaneously with the boy with whom he exchanged.

One fine afternoon, Master Swan, at the Woodside Park half mile track at Stamford, walked five miles against time in forty-nine minutes. He subsequently made ten miles in ninety-nine minutes and forty-six seconds, which beats the best state time on record by twenty-two seconds. Later he made five miles in forty-five minutes and forty seconds, and during that walk he made the extraordinary time of one mile in eight minutes and five

seconds. All these feats were performed without any preparation whatever.

The knowledge of these facts, and the interest recently awakened in pedestrianism, led a number of gentlemen in Stamford to give Swan a chance to show the public generally what he could accomplish as a pedestrian. They proposed to him to place a track in the Town Hall, and give him all the money taken at the door (less expenses), if he could make seventy-five miles in twenty-four hours. Swan eagerly consented, and promised to do still better. Preparations were made, a good track laid, posters issued announcing the terms, etc., and on New Year's eve the long walk was begun. From beginning to the end of the journey, Swan stepped off squarely, and with a pleasing, manly tread, and never made a skip or a baulk. The firm, determined expression of countenance at first noticeable remained with him to the end. The walking began at half past ten P. M. The following evening there were at least six hundred people in the building, whose enthusiasm increased as the journey was nearing accomplishment. About twenty minutes past nine, Swan had gone round the track eighteen hundred times, and each twenty-four rounds counted for him one mile and 108 feet. This number of feet, multiplied by 75, he had to his credit at the close, which made the absolute distance traveled seventy-six and one-half miles. On account of his youth, the physician took him off the track when he had secured the prize, but Swan would gladly have continued walking till ten o'clock, and expected to do so. At the close of the match, he and his attendants were loudly cheered.

Swan makes by his walk net \$138.07, one hundred of which he placed to his credit in the Savings Bank. With the balance he buys necessary articles of apparel. The incidental expenses were ninety dollars. All the managers, attendants, and physician gave gratuitous services. His modest demeanor and gentlemanly deportment during the twenty-four hours won for him golden opinions from all. During the twenty-three hours and twenty-three minutes walk, he had seven hours forty-five minutes rest, including forty minutes sleep.

Swan's weight is one hundred and thirty-five pounds, and he is eighteen years of age. He drank no alcoholic stimulants of any kind during the walk. In this he shows a good example. The average stride taken was thirty-five inches. Swan showed no sign of fatigue, and reported next morning for duty to Manager Butler on time, and delivered messages during the day. Considerable money changed hands during the walk. The estimated number of steps taken was 140,478. The distance walked in feet, 404,324.

THE SECOND VOLUME OF MRS. LAMB'S HISTORY OF NEW YORK CITY.—The early numbers of the second volume of the "History of the City of New York," by Mrs. Martha J. Lamb, are now in press, and will be issued shortly. The volume will contain sixteen parts of forty-eight pages each. This work is sold by subscription only. The first volume, which brings the history of the city down to the year 1774, and is essentially the history of early New York, has already been taken by almost all the representative descendants of the early settlers and their successors. The second volume will bring the history down to the present time, and will relate to modern New York. Modern New Yorkers will be specially interested in this record of the doings of their contemporaries and of the material, social, and political events which mark the progress of the city during this period. There is hardly a family within the limits of the city and vicinity of New York that will not value and purchase such a monument as this work is of the growth and fame of the great metropolis. A few reliable canvassers are wanted, and should apply for territory at once. This work will be a desirable addition to private and public libraries in all parts of the country, as the growth and development of New York City is a matter of interest and pride to every American citizen. In many places, however, agents may not be immediately appointed. It will be advisable, therefore, for persons outside of New York desiring the book not to wait for the agent, but to order at once through the local bookseller, or send their own names direct to the publishers, and thus secure an early impression of the plates. Owing to its beauty, typographically and in point of binding and paper, a subscription to this work will serve as a most acceptable holiday gift to send to friends at home and abroad. The publishers, Messrs. A. S. Barnes & Co., New York, offer to send descriptive circulars, giving prices, testimonials, and styles of binding on application.

THE OPERATOR A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY

W. J. JOHNSTON, - - - Publisher.

January 15th, 1879.

No matter what you want from New York, whether it be in the line of Telegraphic goods or not, send the order to us. We will see that you get exactly what you want, and at the very lowest price, never charging you more than if ordered direct, and very often considerably less.

WESTERN UNION stock is quoted at 95¢, and A. & P. at 32.

THE official list of patents granted during the six years beginning with 1872, and ending with 1877, shows that Thomas A. Edison received 100 patents during that time, nearly all for telegraphic improvements.

THE Direct United States ocean cable parted on Saturday, January 4th, and no messages have been transmitted since. The break, which is in the main cable, occurred near Torbay, on the coast of Nova Scotia. The cable steamer Minia has sailed from Halifax to repair the damage.

A TELEGRAM from Paris, published in London on Friday, states that the new French Cable Company, spoken of in last issue of THE OPERATOR, has been constituted. Its prospectus was issued January 9th. The telegram confirms the statement that the capital is 52,000,000 francs, and the number of shares 84,000. The company proposes to lay two cables, one from Brest to Cape Cod, and the other from Land's End to Nova Scotia—both by the way of St. Pierre.

THE Montreal Telegraph Company declared a half yearly dividend of four per cent. December 30th. This, however, was immediately followed by a bad break in the price of the stock. Before the announcement of the dividend the stock sold at 111, but next day it closed weak at 108. Many claim that the dividend was not earned, which accounts for the fall in the price of the stock. The company paid a three per cent. dividend for the preceding six months, making seven per cent. for the year.

ALTHOUGH more particularly intended for a holiday book, "Christmas Evergreens" is a volume of permanent interest, and its sale should not be exclusively confined to the holiday season. The poems it contains are interesting at any time. Agents can still sell copies to their friends, while the sale of "Lightning Flashes" among outsiders would be very considerable if telegraphers would only interest themselves in bringing it to the notice of the public. The second edition of "Lightning Flashes" is very handsome, and agents will find no difficulty in disposing of copies among their friends. We will send copies of either "Christmas Evergreens" or "Lightning Flashes" for sale among outsiders, postage prepaid, on receipt of one dollar each.

The Suit Against the Western Union.

Another hearing in the suit of Clinton W. Colgate against the Western Union Telegraph Company was had before Judge Blatchford December 30th. Mr. Gifford, for the telegraph company, urged that if the complainant were made secure by proper bonds furnished by the company, he could not be prejudiced in any of his rights. In case the Supreme Court should reverse the decision regarding the validity of the patent, the present payment of a large license fee would be productive of injustice and difficulty. An injunction was never intended to produce mischief and trouble, but only to serve for protection and prevention.

Ex-Judge Shipman replied in an elaborate argument that occupied nearly four hours. He said that this proposition for the security to complainant might be made in every instance in which an injunction was sought on a final decree. There should be very strong reasons for making an exception here to the rule of the courts. Injunctions issued in such cases almost as matter of course. This was a case of willful infringement, continued through a number of years in the face of the protests of the patentee, who died before his rights were recognized. The company could not set up its own folly as a reason why it should be allowed to continue its wrong-doing. The license fee asked—\$100,000 a year—was liberal to the company to the last degree. During the past year the company received 24,000,000 messages at an average profit of over 13 cents a message. According to one of their own affidavits there were received through fifty-five offices, during October alone, 5,000,000 messages, in every one of which offices this invention was used in some form. The invention could not be considered merely as of importance in the 368 miles of its extent on the company's lines, but it was the connecting link for the whole system.

Ex-Judge Porter occupied an hour in reply, dwelling particularly upon the point that if the defendant should furnish security pending the final decision of the Supreme Court, all the complainant's rights would be protected.

Judge Blatchford rendered a decision, January 6th, that he cannot grant a permanent injunction, except as to future manufacture, until testimony has been taken to determine the value of a license fee to be required as an alternative. The Judge says:

"It sufficiently appears that, at least before the time when a final decree shall be entered in the case, it would not be proper to award a perpetual injunction against the further use of gutta-percha covered wires, now in use by the defendant for telegraphic purposes, and that any such perpetual injunction to be granted before such final decree ought to be granted conditionally and on terms as to substituting something else for gutta-percha covered wires, or as to taking a license fee for the future use of gutta-percha covered wires now in use. The affidavits and papers before the Court do not enable it to determine satisfactorily what such terms should be in either of the above-named aspects; and it is proper that the testimony to be taken on the reference as to profits and damages should be before the Court before the question of the perpetual injunction is passed upon. The consideration of the question is therefore postponed until such testimony and the master's report shall be before the Court. But the plaintiff

is entitled to a perpetual injunction against the sale by the defendant to others of any of the gutta-percha covered wires or cables which it now has or shall hereafter acquire, and against the manufacture or use by the defendant of any gutta-percha covered wires other than those which it now has. No security from the defendant is required, as the abundant pecuniary ability of the defendant was admitted by the plaintiff on the hearing.

The settlement of the order under the injunction was made in the United States Circuit Court, January 13th. By the terms of the injunction the company is restrained from the manufacture or use of any gutta-percha covered wires besides those now in use. The determination of the question of a proper license fee for the use of such wires now on the lines of the company, was sent to Master-in-Chancery Guttman. He is directed to take testimony, and report whether the license fee of one cent a message on all the messages sent over the wires of the company for one year would be a reasonable license fee; also whether there is any available substitute for this patent that would produce equally beneficial results, and what length of time will be required for the substitution and the necessary expense.

The Collapse of the Telegraph Pool.

At a meeting of the directors of the Montreal Telegraph Company, December 14th, in reference to the proposed pooling arrangement with the Dominion Company, it was decided not to take any further action in the matter. The scheme has therefore been abandoned, much to the gratification of the employes of both companies. In another part of this issue will be found a very full synopsis of the correspondence that passed between the companies on the subject, which will, no doubt, prove of much interest to our readers. Telegraph employes and the public generally, in the United States, as well as in Canada, will not regret the failure of the proposed pooling arrangement. Active competition is to be encouraged, as it conduces to the interests of both. The Montreal Company certainly does not appear to very good advantage in the published correspondence, and many of the Canadian newspapers criticise its action very severely. The Ottawa Free Press, referring to the matter, says:

It appears that the hitch occurred because of the lowering of the rates by the Dominion Company when they opened their line to the Maritime Provinces early in November. The Montreal, represented by Sir Hugh, wished the rate to be fifty cents; but the Dominion, apparently without reference to any of the officials of the rival company, immediately cut it down to thirty cents, and from this point divergence commenced and speedily widened, until it eventuated in strong language and open rupture. We do not think, whatever may be the result to the companies, that the public will be the losers by a return to the status quo. On the contrary, the public must be the gainers by the companies carrying on an active and healthy competition. It may be depended upon that in the future a monopoly of telegraphic communication will, in this country, be unattainable, for should either of the existing corporations at any time prove recreant to the public interests, others would immediately occupy the ground, and at once command the support of the entire community. In the present case, the published correspondence leaves an unpleasant impression that out of rivalry has sprung bad faith on the part of one of the contracting parties, and that one not generally supposed to be inimical to the public inter-

ests when considerations of personal gain are involved. There is, besides, a feature in the negotiations preceding the rupture which conveys the idea that in telegraph, as in other companies we have heard of, there is a possibility of "cooking" accounts when special interests need to be subserved. Why the Montreal Company should have understated their receipts at a certain stage of what Sir Hugh calls the *pour parlers*, unless it was with the intention of—to use a mild word—of misleading Mr. Swinyard and others representing the rival company, is difficult to determine.

The Telephone Suits.

The Gold and Stock Telegraph Company, in its answer filed in the suit brought against it by the Bell Telephone Company, sets up the general claim that the telephone is not a new invention, and that Gray was the prior inventor. The Boston case, it is thought, will reach trial by April or May. The Bell Telephone Company has obtained injunctions against several smaller manufacturers of telephones, and suits against others are pending.

The company is turning out fifteen hundred telephones a month, and orders are so numerous that many are more or less delayed. There are now 17,500 instruments out, and 15,000 actually rented. Instruments are supplied principally to Telephonic Exchanges, which are being rapidly introduced into all the larger cities. At Albany and Troy there are 350 instruments in circuit; at Buffalo, there are 250 subscribers; at Detroit about 150 instruments in circuit; at Chicago, 550; at Indianapolis, 150 subscribers; at St. Louis, 325 instruments in circuit; at Cincinnati, 200; at Philadelphia, 500 subscribers, and 250 instruments in circuit; at Columbus, 200 subscribers, and about 50 instruments in circuit; at Baltimore, 300 subscribers, 100 instruments in circuit; at Washington, New Orleans, Louisville, Nashville, Exchanges are being started. In Boston, there are 500 subscribers, and about 150 instruments in circuit; at Lowell, 200 instruments in circuit; at New Haven, 350; at Bridgeport, 175; and at Springfield, Hartford, and Providence, Exchanges are being started. An Exchange has just been started in this city, where there are at present about 750 subscribers, and about 250 instruments in circuit.

As WILL be seen from advertisement in this issue, the Bishop Gutta Percha Works has acquired the exclusive right within the United States and Territories of manufacturing and selling gutta percha covered wire, under the patent issued to Geo. B. Simpson, and now owned by Clinton G. Colgate. This is the patent whose validity the United States Circuit Court has just established, and on account of which Mr. Colgate has obtained an injunction against the Western Union Company. The Bishop Gutta Percha Works was established thirty-two years ago, and enjoys an enviable reputation for the quality of its gutta percha covered submarine canal, aerial, underground, and office cables, office and magnet wires, etc. The goods manufactured at these works, under the personal supervision of Superintendent W. W. Marks, than whom there is not a more sterling gentleman, or able, intelligent, and conscientious workman connected with the telegraph business, can always be depended upon as being of the very finest quality.

THE suggestion of a correspondent in this issue in reference to the purchase by operators of Western Union stock is not a bad one. In fact, we had ourselves contemplated calling attention to this matter, but in view of the low salaries of telegraphers just at present, it did not seem to us that enough could be got to go into the scheme to make it a success. If, however, there are those who desire to make a beginning, the columns of THE OPERATOR are at their disposal to exchange views and suggestions, and arrange details. "Joshua's" second scheme savors considerably of a lottery, but may meet the approval of our readers. It certainly would be a very good thing for the lucky operator who drew the \$5,000, but we fear that the rest of the fraternity would not be greatly benefited by the retirement from the service of the few fortunate ones who might draw prizes. We should be pleased to have the views of others on the subject.

WE have thus far received several clubs for THE OPERATOR since January 1st. We think, however, that many more of our readers could get up clubs for us if they only tried. The premiums, or cash commissions, are certainly liberal enough. Will those who have not already begun, please make a vigorous effort now. We shall next issue publish a sixteen-page paper, and forward free as many specimen copies for the purpose of getting up clubs as may be desired. Send for some, or forward names to whom we shall mail copies free. Personals and other items solicited.

REDUCTIONS, called "gradations," were made by the Gold and Stock Telegraph Company of this city, January 1st. Several inspectors whose salaries had been \$95 a month, were reduced to \$90. One man getting \$85, and another \$88, were increased to \$90. A further reduction, it is understood, is to take place on the first of February. Linemen now getting \$70 a month, are to be reduced to \$65, and those now receiving \$62, are to be reduced to \$60. One operator, whose salary is now \$95 is to be reduced to \$50, and another from \$100 to \$90.

THE only item of news in connection with the Continental Company is, that its main office in this city has been removed from No. 8 Broad Street to No. 17 Broad Street. It seems that No. 8 was leased in Mr. Nelson's name, and the latter, after his dismissal by the company, not feeling very amiable toward it, leased the office to the A. & P. Company, and turned the Continental out. The Continental, however, it is said, is doing even more business at No. 17 than it did at the old office, and has no cause to regret the change.

Lieut. G. C. Doane, superintending the construction of the new Government telegraph line connecting Fort Ellis, Montana, with Forts Custer and Keogh, Deadwood and Bismarck, writes from Custer as follows: "The line is now complete from Keogh to Custer, and December 7th it was working from Custer to Deadwood, Keogh and Bismarck. The entire line will be working by the 25th, as the work was progressing at the rate of eighteen miles per day." Lieut. Robinson is with the "Ellis" construction party, and is rapidly setting poles and wire between it and Custer. An operator and signal officer have been ordered to Fort Ellis, and this long needed line will soon be in full operation.

Themes for the Thoughtful.

The perfectly contented man is also useless.

Try to see yourself through the eyes of those around you.

There can be no true thankfulness where there is not benevolence.

Earnestness of purpose can spring only from strong conviction.

He who thinks poorly of himself cannot win the respect of his fellows.

Appear to be better than you are, and aim to be what you appear to be.

He who thinks he has nothing to fear from temptation is most exposed to a fall.

The sweetest thing on earth is a little child when it has learned to know and love one.

The gilded calf, having wealth without soul, finds more worshippers to-day than in the days of Moses.

He whose only claim to the title "gentleman" is in his clothes, must necessarily be careful what he wears.

A friendship that makes the least noise is very often the most useful; for which reason prefer a prudent friend to a zealous one.

The worthiest people are the most injured by slander, as we usually find it to be the best fruit which the birds have been picking at.

The vain man is, after all, the happiest. While the rest of us are trying to please others, he is perfectly satisfied if he only pleases himself.

The man who possesses a passionate and revengeful temper is deprived of reason, and all that is great and noble in his nature is suppressed.

As the ship is lifted by the tide, and as the earth obeys the sun, so will the power of a living faith lift and buoy the soul in the midst of worry or work.

God will not force truth into a soul. He puts the Tree of Life before a man and the beautiful fruit hangs all golden before him, but man can take it or let it alone.

Contentment abides with truth. You will generally suffer for wishing to appear other than what you are, whether it be richer, or greater, or more learned. The mask soon becomes an instrument of torture.

Too many are in the habit of looking away from blessings they have, to think of those they have not. They engrave their deep privations and sorrows and trials on the rock, but write their blessings on the sand, or on the waves.

Castle building gives us a habit of admiring fine things without practising them, it intoxicates us with conceit and sentimentality; for did ever any one build a castle in the air, which did not in some way redound to his honor or praise?

Flowers are heaven's own messengers, and they carry with them a sweet, pure, tender influence, often conveying to the heart of the sorrowing that sentiment of affectionate sympathy which might fail of its purpose if expressed in words.

Courage is always greatest when blended with meekness, intellectual ability is most admired when it sparkles in the setting of a modest self distrust; and never does the human soul appear so strong as when it foregoes revenge and dares to forgive an injury.

A man's life is not all wrought out on Sunday nor in the prayer meeting. Ninety-nine parts in a hundred of a man's real life are outside of the life of the church. If you want to know what men are, look at their life outside of the usual ecclesiastical bounds.

Infinite toil would not enable you to sweep away a mist; but by ascending a little you may often look over it altogether. So it is with our moral improvement. We wrestle fiercely with a vicious habit which would have no hold upon us if we ascended into a higher moral atmosphere.

If every morning, by a resigned and simple prayer—by that quarter of an hour's meditation which only seems difficult when we do not practise it—we would open our hearts to God, as we open a window to admit air and sunshine, God would put there for the day that sweet peace which elevates the soul, causes it to feel less the weight of sorrow, and makes it experience the desire of overflowing with kindness.

Montreal Telegraph Company.

The annual report of Sir Hugh Allan, President of the Montreal Telegraph Company, shows that, comparing the business of 1878 with that of 1877, the number of messages has decreased by \$4,027; 106 miles of poles, 594 miles of wire, and 84 offices have been added. With some assistance from the Government of the Dominion, the line of telegraph on the south shore of the St. Lawrence, which before reached only to Matane, has been carried down to Gaspé.

An advance statement of the affairs of the Montreal Tel. Co. had been previously issued by the Secretary, which shows that the gross revenue in 1878 was \$485,802, against \$514,122 in 1877, a decrease of \$28,320; the expenditure last year was \$343,244, against \$345,450 in 1877, a decrease of \$2,206. The revenue and expenditure for the two years amount to:

REVENUE.		
	1877.	1878.
Messages	\$461,731	\$436,029
Repairs	22,741	31,571
Interest	12,552	11,045
Rents	7,099	6,662
	\$514,122	\$485,307

*These reports are credited, as heretofore, at the net sum received for them after paying of cost of obtaining them, etc.

EXPENDITURE.		
	1877.	1878.
Office furniture	\$ 10,472	\$ 10,821
Fuel and lights	9,129	9,140
Battery	8,853	8,799
Repairs	41,611	44,886
Stationery	10,780	11,871
Salaries	239,652	231,552
Rent	13,219	12,195
Taxes	6,384	6,658
Miscellaneous	3,934	3,929
	\$347,450	\$343,244
Net profit	\$166,671	\$142,067

Out of the contingent fund, which stood at \$195,475, \$26,140 has been taken for new lines, offices, etc., leaving \$169,335, which, after adding the balance of profits for 1878, makes the credit of that fund \$171,432.

The following is a statement of the assets and liabilities:

	1877.	1878.
ASSETS.		
Miles poles at \$60	\$731,890	\$737,940
Miles wire at \$19	8,860	8,860
Offices	192,125	196,125
Cables in use	35,178	34,886
Buildings: - Montreal, Ottawa, Toronto, and Quebec	208,131	208,131
Stores on hand	100,169	91,501
Due from offices, railways, governments, etc.	94,245	60,254
Cash in bank and on hand	89,449	98,938
	\$2,355,599	\$2,363,273
LIABILITIES.		
Capital stock	\$2,000,000	\$2,000,000
Dividend now payable	8,000	80,000
Unpaid dividends, etc.	6,599	4,918
	\$2,014,600	\$2,084,918
Estimated surplus	308,599	278,355

The general expenses in 1876 were \$357,356; in 1877, \$345,450, and in 1878, \$343,204. The company has now 12,299 miles of poles, 20,000 miles of wire, and 1,569 offices.

Referring to the above statement the Montreal Star says:

"It is worthy of note that, in the valuation of their assets, the management put down poles at \$60 and wires at \$40 per mile, it being known that both of these items can be procured at figures much below these prices. In regard to the question of telegraphic organizations the following, summarized from the New York Graphic, in regard to the Western Union Company, will be of interest: 'At length the final results of the combination of railway companies against the Western Union Telegraph Company have come to light. It appears that of about eight thousand places from which messages for the Western Union Telegraph Company are sent, something like 6,000 are railway stations belonging to various railroad companies. The telegraph wires along the routes of the railroad companies are the property of these respective corporations, and are simply leased or hired by the Western Union Company. It is thought to be the intention of the originators of the new movement to organize a telegraphic company in which all the trunk railroad lines, with the exception of the New York Central, are to take stock. It is supposed that, with the wires and poles now owned by the railroad companies, not more than \$1,000,000 will be required to supply the additional wires and poles that will be necessary, and this sum is to be furnished by English capitalists.' It would

be interesting to know what the position of the Montreal Company in a similar respect is on this question."

Hearing Better with One Ear than with Two.

The following, from a correspondent in this city, would seem to demonstrate that one can hear the clicking of a sounder more distinctly with one ear than with two. There is certainly not much trouble in trying the experiment, so that each reader can test the matter to his own satisfaction:

A few years ago I took a severe cold in my head, and in a few days entirely lost the use of my left ear, no sound coming through it at all. At first I was very much alarmed, thinking I would be compelled to leave my desk, as it would interfere seriously with my hearing. But, to my surprise, I found that I could receive much better with one ear than with two. I found that those slight sounds, such as people walking or talking in the office, that distract the attention of a receiving operator, and make him forget his instrument, were entirely lost to me in my then present condition. This partial deafness, however, only lasted a few weeks, and at the end of that time my hearing was entirely restored.

A week ago I happened to mention this incident to the lady who works our wire at "N. Y." She seemed very much interested in it, and, being naturally of an inquiring turn of mind, set herself to thinking whether she could not utilize my experience to some advantage.

A day or two after this I had a considerable amount of business, much more than usual, and noticed that this lady hardly ever opened her key during the day. This surprised me, for I never knew her to work so well before. The following day the same thing occurred. She seemed to have improved more in the previous week than for five years before. At last I asked her how it was that she received so much better than she formerly did. After some hesitation she acknowledged that she had benefited by my experience. She had bought a hard piece of rubber and placed it in her right ear, holding her head well forward, sideways, so that the left ear would catch the full sound from the instrument. She found, as I had, that she could work to much better advantage than with her two ears.

I write this that others may try the same experiment that this young lady has done, and is doing to-day.

Q. Z.

The Philadelphia Telephonic Exchange.

The telephonic exchange system is in successful operation in Philadelphia, and is said to work very satisfactorily. The front of the recently devised and ingenious telephonic switch-board, as described by one of the newspapers of that city, consists of a walnut frame and bright strips of brass, punctured with holes, into which wires are fitted to make the necessary connections. Behind this all the wires converging in the office concentrate. The board just put in operation accommodates no less than 400 different lines, which have an aggregate length of 1,000 miles, thus placing each firm or individual having telephonic connection with the main office in direct communication with 399 other persons scattered over the city. Should an individual at the Baldwin works desire to converse with a person at Cramp's shipyard, he ascertains from a printed card the number or call of the Kensington shipbuilders. As an instance, if the number of the Cramp telephone is 13, the speaker at Baldwin's touches a spring attached to his instrument to designate the number, and immediately a bell at the central office rings out the signal, and simultaneously a little tablet on the switch-board drops and reveals the name of Baldwin & Co. An attendant sees at a glance that some one at Baldwin's desires to talk with No. 13, and finding this to be the box at the Cramp yards, connects the wires of the two places, either by means of the pins referred to or by joining them to a rod fixed at the back of the switch-board. Now, the man at Baldwin's practically has his mouth to the ear of the person at Cramp's, and can talk to him about the weather, or the price of steamships, or order some machinery, or invite him to dinner, as he chooses. If he wants some article which the shipbuilder cannot supply, they may re-

commend him to one of the other 398 establishments connected with the telephone exchange, and, by going through the same simple process, he can order coal at Port Richmond, call for cars at Washington Street wharf, send for a man at Manayunk, and, in fact, can talk with a dozen individuals in as many distant points in less than that number of minutes. The instrument is so arranged that any number of persons can talk on as many subjects at the same time, from different points, without experiencing the difficulty that occurred at the building of the Tower of Babel.

A Christmas Presentation at Camden Station.

Among the many pleasant incidents of the holiday season none was more successfully planned and accomplished than was the presentation of a beautiful gold watch, suitably inscribed, to Mr. C. W. Clarvoe, division operator of the Baltimore and Ohio Railroad (whose division embraces the main line as far as Keyser, West Va., including the Washington, Metropolitan, and Valley Branches) by the employés of the telegraph department on his division at Camden Station, Baltimore, on Christmas Eve. The affair was kept quiet. As telegraph operators are so eminently capable of keeping others' secrets, their own seldom leak out. About five o'clock Mr. Clarvoe having gone home to commence his own Christmas festivities, was summoned by a telegram through one of the branch offices ostensibly to straighten some office troubles reported to require his personal attention. The whole force of Camden Station office was on hand, including several linemen and General Superintendent R. Stewart. On entering the office Mr. Clarvoe was invited into Supt. Stewart's room, where Mr. J. B. Geakle, after a few preliminary remarks, said: "I have been selected by the employés of your division to tender you this token of our esteem with their best wishes that we may all long continue in the service of the oldest as well as one of the most efficiently managed railroads in this country." Although the surprise was complete, Mr. Clarvoe made a very appropriate reply, and with a hearty "Merry Christmas" all around, those not on duty took their leave.

The present is a beauty, and reflects much credit on the donors, as it also shows remarkably good taste on the part of Chas. P. Adams, by whom it was selected. The committee of arrangements consisted of Mr. C. P. Adams, chief operator; Messrs. H. O. Steltz, R. G. Davidson, A. J. Wright, and W. O. Eastlake, operators, together with Mr. C. H. Farringer, the bookkeeper, all of Camden Station.

The Electric Light in the London Times Composing Room.

The state of expectation in which the public mind allows itself to be held with reference to the so-called "divisibility" of the electric light by Mr. Edison is somewhat surprising, seeing that all the time this divisibility is a *fait accompli* in England, and may be witnessed and tested any night of the week at the Times printing office. Armed with an order for this purpose I went there the other evening, and this is what I saw: From gas-light we merged suddenly into what seemed a flood of daylight, which came from six small lamps placed at intervals around a large room, in which compositors and others were busy at work. These lamps were suspended so as to be raised and lowered at will. In compliance with the wish of one of the gentlemen present one of these lights, selected at hazard, was turned out by means of a tap, and it remained out without the slightest perceptible increase in the volume of light in the other lamps. Then another light at a distance was treated in a similar manner and with a like result. These two were then relit by a turn of the tap the reverse way and turned on full power. Then one was slightly "lowered" so as to give about a third of its full light, as with ordinary gas. In short, we found there a useful and agreeable light, which can be moderated and arranged to suit all circumstances. This is the Rapiëff light. I am no electrician, and shall not attempt to give a technical description of the apparatus employed, but it seemed to possess great simplicity. M. Rapiëff says he can burn ten lights in one circuit; that his carbons will burn for ten hours; that they can be easily renewed, and without extinguishing the lights. He further estimates its comparative cost with gas as less than a third. His statements may be taken for what they are worth; but, judging from what I actually saw in the Times office, I should say the sooner gas shareholders begin to "hedge," by investing in electric light shares, the better.—*London World.*

Inventors and the English Post Office.

In 1870 Mr. Herring brought before the notice of the English postal telegraph department an improved Morse instrument which marked the slip transversely, thus condensing the message and saving paper. He was told that it must be made to emboss the paper before it could be tried. He made it do so, and the instrument was tried in January, 1871, but condemned because it did not mark the signals in ink. The ink-marking type was then tried before Sir William Thomson and Prof. Fleeming Jenkin in October, 1872; but Mr. Herring was dissatisfied with this trial, alleging that the referees did not keep to the terms agreed upon. A further trial by automatic sender was then suggested by Mr. Jenkin. Mr. Herring wished that Messrs. Clark, Forde & Co., who had already reported favorably on the instrument, should be present at the trial in his favor, while the above-mentioned gentlemen represented the postal authorities. Mr. Scudamore agreed to this; but no such trial ever came off, although Mr. Herring had incurred considerable expense in preparing for it, and engaging Messrs. Clark, Forde & Co. On July 4, 1874, Mr. Scudamore wrote to Mr. Herring that the experiments with his instrument had now ceased, and the department had decided not to use them. Thus the department seems to have broken its promise, and to have caused Mr. Herring considerable loss in time and money. It makes no offer to reimburse him, and the legal advice which he has obtained counsels him to the remedy of a petition of right against the Crown, and opines that it is a case for a jury, by whom substantial damages might be returned. Mr. Herring would, however, doubtless be satisfied by the trial formerly arranged for being faithfully carried out now.—*Telegraphic Journal*.

An English Opinion of Edison.

The English telegraphic papers are fond of casting ridicule upon Mr. Edison now and then. The *Telegraphic Journal* recently published this item:

It is proposed to bring out at an early date a large "Edison Electric Lighting Company," with a view to filling the immediate demand for electric light (until Edison's system is ready) with the other means at command.

The *Electrician* some time ago published what it called "a humble voice from America," as follows:

I'm the greatest genius going, and the talents I possess "Are enough to stock the world,"—please see the New York Press;

And I give you now fair warning that I claim in every land

What could, would, should, or might come of all I take in hand.

I may mention, for example, with my newest Telephone You'll hear to-morrow's rumors—so let telephones alone;

And the Phonograph I'm making will take part in a debate;

I'm going to do a lot of things—so you are all too late.

They've contrived Electric Lighting, without consulting me,

On your side the Atlantic—this is downright piracy! But I've taken out a patent that will cover all that's known,

And—when I've thought it over—I shall count it all my own.

And, lastly, as a clincher, I've determined in my wrath To patent Electricity, and Magnetism, both;

If this is not effectual to answer my intent, I guess I'll take a patent for my sole right to invent.

Echoes from 197.

Carrie Breier has been transferred from the Boston quadruplex to the Syracuse wire.

George Sawyer and H. L. Gramzow, of the day force, and H. M. Bennett of the night force, have resigned.

Wall Leaning, an old telegrapher, is now filling a clerkship in the Homeopathic Hospital on Ward's Island, N. Y.

Mr. Charles M. Holmes returns sincere thanks to his friends at the main office for substantial sympathy extended during his recent bereavement.

Owing to the number of vacancies caused by resignation and sickness, the rule requiring operators to take ten days' vacation during the dull season has, for the present, been suspended.

Mr. Joe Mitchell not only manages 407 Broadway office, but also manages to make firm friends and admirers of every man who has ever been associated

with him. This is about the surest test of a man's character. Messrs. Smith and Page, of the same office, have no desire, and there is no occasion, at least for the latter, to turn over a new leaf.

Some excitement was caused by a fire in the office of the Atlantic and Pacific Telegraph Company at No. 145 Broadway, this city, midnight, January 3. The fire was caused by rats cutting through the box where the battery wires run, and gnawing off the covering, thus short circuiting the battery. The fire was speedily extinguished, and the loss did not exceed \$100.

We have lost confidence in "Clark" at "N. Y." We always supposed him to be a quick-witted, ingenious young man, who could see through a stone wall in search of a "bulled" address. But when a Hoosier sends a message to "John Smith, care Sturt Wanhouse," and "Clark" says he couldn't find it in the directory, I think it about time he gives up, and goes to planting corn. Of course you and I, Mr. Editor, could see at a glance that the message was intended for the "Sturtevant House." G.

SCENE IN BRANCH OFFICE, NEW YORK.—Chief operator at N. Y.: "Try 9 city sawndy."

Operator scratches his head, looks at switch, rubs his nose, and says, "r. r."

"Try 9 city sawndy."

Again he looks at switch, scratches his head, and rubs his nose, then takes a look at the six messages he had sent. No such word as "sawndy."

After a pause the chief once more suggests: "Try 9 city sawndy."

Operator: "Oh, oh! it's open above."

The order in English was: "Try 9 city. Say when—Dy."

Judge Lawrence has decided the motion in the suit of Elliott W. Todd and others against the Gold and Stock Telegraph Company in favor of the company. The suit grows out of the latter's refusal to allow its instruments to remain in bucket-shops. Judge Lawrence says: "I am of the opinion that the motion to continue the injunction in this case should be denied. It appears that the plaintiffs agreed that the company should reserve the right to discontinue the delivery of the reports to any party, taking them for publication or outside use, or when they should be made use of in any manner detrimental to the company's interest. It may be that after the trial of the issues raised by the pleadings at the Special Term, the Court may determine to grant an injunction. On the affidavits before me I do not feel warranted in continuing the preliminary order of injunction."

English Post Office Telegraphs.

From the Annual Report of the British Postmaster-General for the financial year ending March 31, 1878, it appears that the increase in the number of public messages handled during the year was less than usual, amounting to 445,640—a comparatively small increase, attributable to the continued depression in trade. On the other hand, owing to political events of unusual interest, there was an increase of 25 per cent, in the amount of press matter, upwards of 250 millions of words having been transmitted in the course of the year for newspapers, clubs, exchanges, and news rooms. Twenty-five additional post offices were opened for telegraph business, making a total of 3,756 offices, besides 1,556 railway stations which act as public telegraph offices. The Postmaster-General, while calling attention to the errors in telegrams occasioned by the senders' own indistinct writing, and recommending greater care on the part of the public, explains how easily serious errors may unavoidably occur from very slight derangement of the signals. For example, the displacement of a dot caused the news that Mary was "bad" to be transcribed as the sad intelligence that she was "dead." In another case a pleasure party was announced as having arrived all "tight," when, in fact, it had reported itself "all right." From returns given in the appendix we learn that the total number of telegrams forwarded from offices in the United Kingdom was 22,171,783. Of this number nearly seven millions originated in London, being more than four times the number for all Ireland, and about three times the traffic of Scotland. The revenue from private wires was \$291,645. The total gross telegraph revenue for the year was \$6,667,710; the working expenses \$5,820,655, leaving a net revenue of \$847,055.

Telephones are now supplied in England at a yearly rental of from \$2.50 to \$26, according to distance and class of instrument required.

The New York Wire Club.

"Great hearts, like oceans, never congeal."

The rooms of the New York Wire Club were tastefully decorated on New Year's Eve, and a large attendance resulted from the announcement made at the last meeting that the exercises would be unusually interesting. Jakey Stephenson called the roll, after which, Gisborn Ward sang "My Grandfather's Clock" with great feeling and expression. He was followed by Augustus Kraft in a recitation of "Bingen on the Rhine," which was delivered in a sonorous and impressive manner, and brought down the house.

At this point President Borst arrived, fully thirty minutes late, and accordingly rose to an explanation, attributing his tardiness to the fact that he had been engaged in a walking match with B. Noyes from Trinity Church to Union Square. Here the president would have resumed the regular routine of business, but many voices called for the result. "I was ahead of Noyes at the start, and haven't seen him since," said Mr. Borst. (tremendous cheers). A momentary feeling of gloom, however, passed over the club when Johnny Moffatt announced that Mr. Noyes had never started at all, but had wickedly remained stationary, enjoying the spectacle of their President's laborious strides and fast receding form. Messrs. Howlett, Olmstead, Gibbons and Crate created a perfect furor in their wonderful athletic and eccentric terpsichorean specialties, which were received with tumultuous applause. Fred Wilcox sang "Baby Mine," with charming *naïveté* and infantile abandon which was keenly relished by all.

Perhaps the most successful number upon the programme was the appearance of ex-Chief Lawson, of St. Louis, in his startling gyrations upon the horizontal bar, which provoked incessant and unbounded enthusiasm. The initiatory, and minor evolutions, graceful and even poetic in conception and execution, showing how nearly perfection can be attained by constant application and practice, called forth unqualified commendations from all present, but when at last, without the least apparent effort, the breathless and wondering spectators beheld the form of the ex-chiefman whirling at full length in that most difficult, most beautiful, and most exhaustive test of a great athlete, "The Giant's Swing," cheer after cheer swept over the house, men shouted until they were hoarse, hats were tossed high into the air, old operators grasped each other's hands, and vowed that times had changed; and Jimmie Bradt waved a red and blue silk handkerchief from a proscenium box. It was indeed a grand ovation. In response to repeated encores, Mr. Lawson advanced to the footlights, and with much emotion thanked the members for the enthusiastic manner of his reception, modestly referring to his early life in New York, his thrilling adventures while on the night force in St. Louis, and his final return to the scenes of his childhood. At the conclusion of Mr. Lawson's remarks, Denis Brown arose, and very appropriately and artistically rendered the beautiful song, "When Other Lips and Other Hearts." The meeting then adjourned.

Dashes Here and There.

They do say that Edison's mother's name was Necessity.—*Yonkers Gazette*.

Telegraphers should certainly make good business men, as they always act on "sound" principles, and this is recognized as the key-note of success.

Corporations may have no souls, but they look upon it as a most sole-enn and imperative duty to pay dividends regularly; in fact, this appears to be their sole aim in life.

A microphonic burglar-alarm is the last device. The slightest noise made by the burglar, is straightway magnified into an earthquake and conveyed to the ear of the sleeping proprietor.

This advertisement from the *Youth's Companion*, seems to be slightly behind the times.

WANTED—Fifty Young Men to learn Telegraphy by Sound. Allison's Telegraphic Inst., 108 S. 10th St. Phila.

The boy hanging on to the fence, and the farmer's dog hanging on affectionately to the boy, differs from the double-enders in this respect, that while the latter are of a duplex, the former is of rather a perplexing character.

There is this much of a resemblance between messages that have to pass through repeating stations, and the travelers on a railroad after a storm has swept the tracks away, that both them and the

rails have to be re-laid before either can reach their destination. Those who feel disposed to rail at the author of this own will, it is hoped, relent when they are informed that the terrific contest has thrown him into a very dangerous relapse.

The gentlemen of the Signal Service Bureau notify us of the arrival of the cold waves from the West, and we are thankful, but they would render us a much more signal service if they could manage to waive it off in another direction.

His name was Ottman, and his message said he had soar eyes, and had been confined to a dark room. The question naturally arises, Ott(a)man thus sorely afflicted so rise himself above his sufferings as to be able to soar out of his room of darkness into a room of light nung manipulation. §

"Can I send a message from here to Sa-vaunah?"

"Certainly, sir. Where is she?"

"Where's who?"

"Why, Anna?"

"I mean to Georgia."

"Oh?"

"Oh!" Tableau.

From the Fourteenth Annual Report of the New Zealand Telegraph Department it appears that each of the islands has a system of land lines, extending throughout their lengths and connected by two cables across Cook's Straits. The total cost of the system thus far amounts to \$1,972,070. The revenue for the year ending June, 1878, is \$468,520, and the expenses \$437,995. The total length of the land lines is 3,434 miles. Poles sawn from the heart of the totara tree are found to be very durable.

The microphone has proved very useful to an English resident in India as a thief catcher who found his store of oil rapidly and mysteriously diminishing. He fixed a microphone to the oil cans carried the wire up to his bedroom, and after the house had been closed for the night, sat up to await the result. Very shortly he heard the clinking of bottles, followed by the gurgling sound of liquid being poured out, and running downstairs caught his bearer in the act of filling small bottles with oil for easy conveyance from the premises.

Mr. W. H. Preece, the electrician to the British Post Office, is inclined to look upon the present activity about the electric light as one of those sensational spasms which seize the public periodically at intervals of about ten years. He has not yet found the ideal electric light. He went to Paris, and everywhere where the electric light could be seen, but he had laid down three desiderata, which he had not found accomplished. The first was that the light must be absolutely steady; secondly, it must be brilliant, giving a light of 1,000 candles, or more; thirdly, it must be durable. Of all the lights, the only one he had seen which came up to his standard of brilliancy was the Serrin; the only one which came up to his criterion of steadiness was the Werdermann; and the only one sufficiently durable was the Wallace, by which he meant one which would last all night, and nights in England sometimes lasted eighteen hours. But there were several which came pretty near these criteria.

Prof. James C. Watson is indignant because through the publications of Mr. Prescott and others the impression is sought to be conveyed that Mr. Elisha Gray, and not Prof. Bell, is the inventor of the speaking telephone, and has published certain facts bearing on this question of priority. While Prof. Watson and Sir William Thomson were acting as judges at the International Exhibition at Philadelphia, and examining the inventions of Gray and Bell, Gray showed that "the object which he had in view was to send many messages simultaneously over the same wire by using sending and receiving instruments of different musical notes." Bell, on the other hand, maintained that his apparatus could transmit speech, and an impartial test was instituted by Watson and Thomson, which was, it may well be believed, as rigid as possible, because what was claimed by Bell as the effect of his appliance was contrary to prevailing views. The results convinced both judges that Bell had made a wonderful discovery. When this conviction was told Gray, he said to Watson that there must have been deception of some kind; that the alleged result was impossible; that the transmission was by actual contact through the wire, and that the apparatus was "nothing more than the old lovers' telephone." Even after Thomson had on his return to Glasgow brought the Bell telephone into notoriety, Gray gave a public exhibition at Chicago, and then, as at Philadelphia before the judges, his discourse was solely in reference to the musical telephone without any allusion to Bell's invention. "Imagine, then,"

concludes Watson's letter, "the surprise of the judges who examined these inventions particularly at Philadelphia in 1876, and heard the personal explanations made by the inventors, to be told now that Gray had already invented the speaking telephone, when all his statements then made show directly to the contrary."

A fictitious cable despatch of inordinate length, purporting to emanate from a staff correspondent who has been sent across the seas to find Mr. Edison, is an amusing *jeu d'esprit* in *Saunders's Irish News*. When the correspondent landed in New York, President Hayes went tearing down Broadway to the Battery in an open carriage drawn by six cream-colored horses, and preceded by a number of outriders in scarlet and gold, and a squadron of siege artillery in full gallop. As they approached, the President descended from his carriage, saluted the correspondent on both cheeks, and immediately raised a cheer, which was at once taken up by his party, and repeated from the Battery to the Central Park. The President carried his guest off to the White House, where they had bird's-nest soup, bluefish, bread-fruit, pilaff, and oysters in every style. After lunch the President drove the correspondent out (without the artillery) to see the sights in the immediate neighborhood—the Falls of Niagara, the prairies, the Yosemite Valley, and giant trees in Mariposa County. When he learned that the Irishman had crossed the seas to talk with Mr. Edison, the President urged him to do nothing of the sort. He remarked that the inventor was hardly ever at home, being generally in the Patent Office registering some new discovery, and besides he was so highly charged with electricity that it was dangerous to approach him. The President remarked that the inventor was frequently seen with a regular nimbus around his head, a sort of domesticated aurora borealis, and one man who shook hands with him in a casual way went home, took to his bed, and was prostrated by the violence of the electrical shock.

Albany, N. Y., Items.

Foreman Chindler and his men are erecting a very handsome booth in the new capital, to be used by the Western Union. It is expected that it will be ready for occupancy in a few days, and we believe is under the management of Mr. C. E. Arnold, of the Kenmore Hotel office. Miss Ella Grant has been placed in charge of the Greenbush office in place of Mr. Thomas H. Muddle, who has accepted a position with Mr. Arnold at the Kenmore.

The following [from an office not a hundred miles from here, and to our Chief, we think too full of originality to be buried in the files of wire messages, so we give it verbatim:

"When my relay is adjusted so everybody can work on the line, I cannot work myself, and when I adjust it for my own use nobody else can work at all. When I call you I have to watch and turn down the spring, or else I can't hear you, and when I want to work I shall turn it up higher—the local is closed, and can't hear nothing."

Mr. Orville Coats, for many years "one of us," and at present a student in Madison University, was here subbing during the holiday vacation, and supplied the pulpit of the Tabernacle Baptist Church of this city both morning and evening of Sunday the 5th inst. Upon returning to his studies he was presented with a very handsome Students' lamp, and a complete volume of "Farrar's Life of Christ," as a token of the high regard and friendship which his office associates here hold for him. Not this alone, but we wish him to feel that we are united in the wish that he may prove a valuable and successful servant in the high calling which he has espoused.

X. Y. Z.

PERSONALS.

R. B. Smeltzer has been assigned to the "N. Y. wire," night force, in the Baltimore office.

Jimmie Bradt of the New Orleans wire is confined to his room by indisposition.

We have a letter for Mr. William J. Waugh. Can any of our readers furnish us with his address?

Wm. Barrett, the veteran of Baltimore, is again in that city, having accepted a position on the W. U. day force.

T. Farley, formerly one of the Baltimore night force, has accepted the "8 A.M. to 8 P.M." trick in that office.

Miss "Em" Sweet has left the day force at Jackson, Mich., and accepted a position in the W. U. office at Lansing.

Archibald Wilson, Jr., formerly manager of Baltimore W. U. office, has resigned his position to engage in other pursuits.

Mr. C. G. Wright, of the Western Union office, Kansas City, Mo., was married, New Year's Eve, to Miss Flora McDill, book-keeper same office. We wish the young couple a long and happy wedded life.

R. E. Mullahy has been appointed superintendent of telegraph, and train dispatcher of the Cincinnati, Wabash, and Michigan R'y, with headquarters at Eckhart, Ind. The boys are all glad to hear of Dick's success, and hope that he may make a good superintendent.

John J. McCarthy, night clerk at the main office of the Western Union Telegraph Co., Boston, died in that city January 9th of consumption. He had been in the employ of the company for about twelve years—three years as messenger and nine years as clerk—and was greatly esteemed by his associates, who deeply mourn his loss.

We have received a copy of the programme of an entertainment given at the Illinois State Penitentiary on Christmas day. The programme was executed by Mr. S. W. Wetmore, operator and assistant clerk, by means of the electric pen, and is very much the finest piece of electric pen work we have yet seen.

Walter W. Pegge, night operator at the A. & C. Air Line depot, Greenville, S. C., and well known among Southern telegraphers, was found dead January 12th. It is supposed that he committed suicide, a phial of morphia having been found in one of his pockets. The deceased was about 22 years of age, and had won many friends in Greenville, by whom he was highly esteemed.

The *Telegraphic Journal* says that the French Telegraphic Administration are at present trying the articulating powers of Professor Hughes' "hammer and anvil" form of transmitting microphone against the Edison carbon telephone transmitter, with a view to the adoption of the better in connection with an electro-magnetic receiving telephone. Experiments have been successfully carried on with the microphone between Paris and Versailles. It is believed that the microphone will be useful in field telegraphy.

Miss Jennie Fenton, manager Western Union Telegraph office Chesterton, Ind., her sister, Miss Mollie Fenton, and her brother Thomas were pleasantly surprised Christmas morning by the presentation of an elegant silver tea set from the good people of that town, by whom the Misses Fenton are held in high esteem. They are first-class operators, and very estimable young ladies, and their many friends unite in wishing them the compliments of the season and many happy returns.

OPERATORS AND TRAIN DISPATCHERS.—A third man has recently been added to the force of train dispatchers on the Eastern Division of the N. Y. L. E. and W. (Erie) R. R., each man working eight hours. The operators in that office, however, are still made to work twelve hours as heretofore. Operators are not allowed to become train dispatchers on this division of the road, the promotions being all made from conductors. Of course it is all right that the train dispatchers' hours of duty should be reduced from twelve to eight, but why make the discrimination against the operator? The night operator is compelled to work all night long, but the train dispatcher can't stand it! Are the duties of a train dispatcher more arduous and fatiguing than those of an operator, especially when the dispatcher can sleep part of the night, depending on the operator to call him when wanted? A more direct insult to the operators on this division it seems to me could not have been offered unless it be the fact that they are not allowed to become train dispatchers. Even the Penn. R. R. Co. treats its dispatchers and dispatchers' operators on an equal footing in this respect, and that is generally conceded to be about as mean a corporation as an operator ever worked for.

OPERATOR.

MARRIAGES.

CAREY—WELCH.—Jannary 1st, at Charlotte, Mich., Mr. Henry Carey, operator M. C. R. R., to Miss Anice Welch, both of Charlotte.

ADAMS—MCGEE.—Dec 5th, at Baltimore, Md., Mr. F. G. Adams, of the Western Union office, to Miss Kate M. McGee, daughter of Wm. McGee, Esq. No cards.

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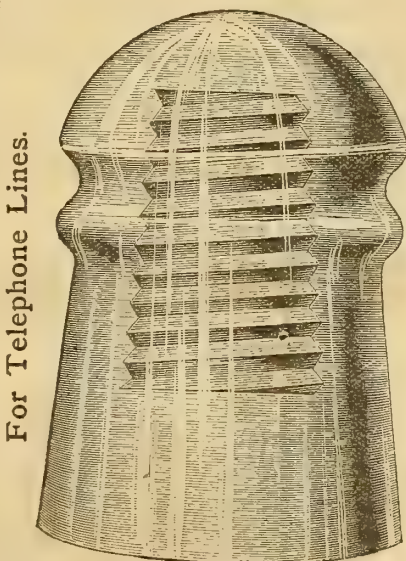
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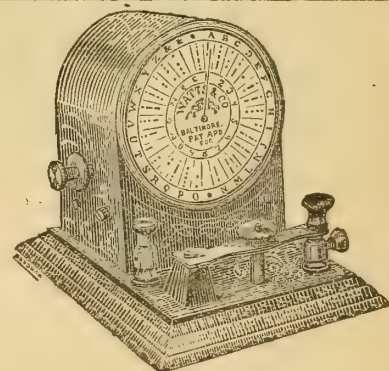
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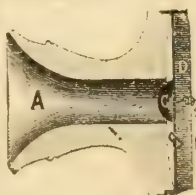
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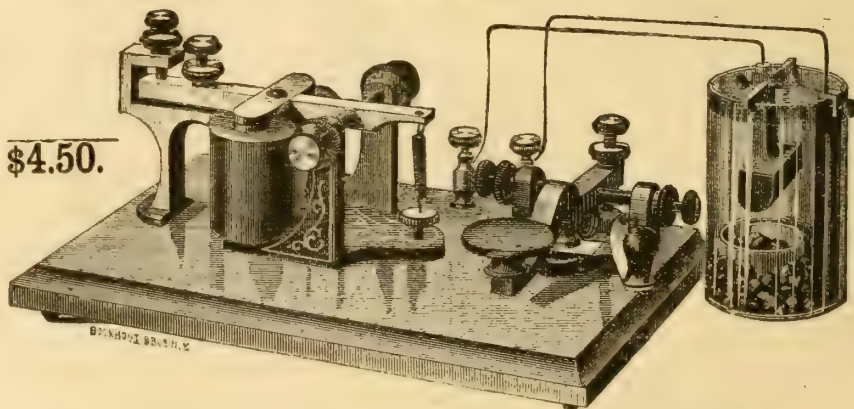
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THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

February 1st, 1879.

Volume X.

Whole No. 119.

His Story.

(Dedicated to R. X.)

He was such a shaky sender! with a sputter and a rattle,
How the armature would jingle, as he wrestled with the Morse.
With the men on number forty, he was sure to have a battle,
Occasioned by his jumble of the alphabet, of course!

He'd call so very rapid, that "Racing Lane" would answer,
And "Silver Creek" and "Parkersburg" would quickly do likewise.
'Twould surely set you laughing, to hear those fellows rant, sir;
All striving for the circuit, while each other they'd despise.

He was such a shaky sender, with his flighty Morse and clatter.
I wish you could have heard it, as it skipped along the line;
You would imagine surely that something was the matter
With the wire, or the magnet spools, I honestly opine.

When old age comes creeping o'er me, and my hand has grown unsteady—
When they call me the Old Timer, and I'm classed with Jerry Borse,
I shall call to mind that sender, and the laugh will come as ready
As when listening to the rattle of his flighty skippy Morse.

PALMER BARNES.

Thomas A. Edison.

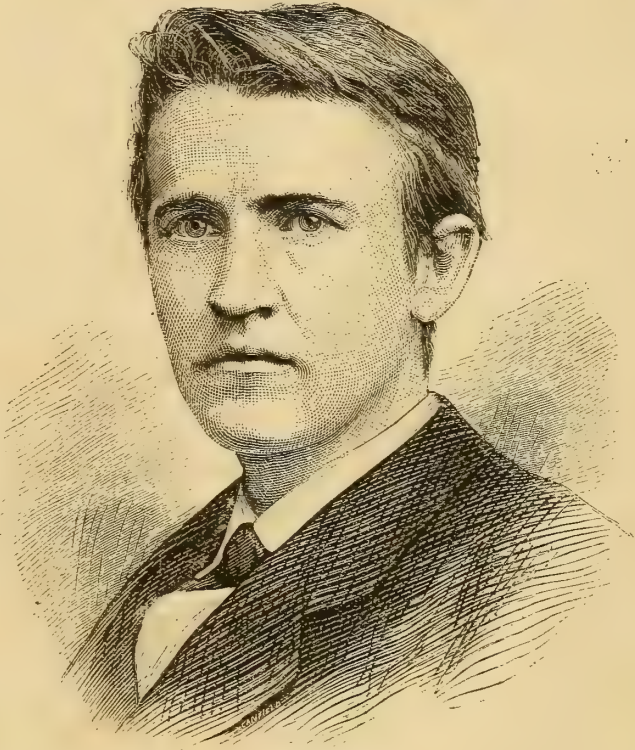
We present herewith a literal "speaking likeness" of Thomas Alva Edison, of whom our readers have heard so much from time to time in these columns. Mr. Edison is a little above the medium height, and, although not yet thirty-two years of age, his iron-gray hair and thoughtful eye show the effect of continued study. A very complete life of Mr. Edison, from the pen of Mr. George H. Bliss, has already appeared in THE OPERATOR, but the present sketch may not prove uninteresting.

It has been observed that men of extraordinary inventive facility, whether in literature or the industrial arts, usually have a spice of the vagabond about them, and a glance at the early life of Mr. Edison confirms the truth of the apothegm. It was a toss-up with Shakespeare, when he went to London with a few rhymes and sonnets in his pocket, whether he should turn out the father of English drama or a sixteenth century tramp. There is no doubt that the boys at Stratford called Shakespeare Bill, for the bard of Avon was that sort of a boy; and there is living evidence that the boys at Milan, Ohio, where, in February, 1847, young Edison was born, called him Tom—not Thomas, as they might have done with a more dignified lad. He knew all the songs of the canalmen before he was five years old, and lisped in homely numbers, "Oh! for a life on the raging canawl," ere he had fairly learned his alphabet. When he was a little boy, his father (still living at the age of 75) moved to Port Huron, an obscure village in the lake country. The old gentleman had a discursive habit of mind, and has been by turns tailor, nurseryman, dealer in grain, lumberman, farmer, almost everything in the calendar of industry and business, without remarkable success in any. His grandfather lived to be 102 years old, and his great-grandfather 103. Edison expects to be 110 at the time of his death, and to see the universe lighted by electricity. That is possible, as he is not yet quite 32, and it will be 1957 when he finally takes his departure. Edison's mother was well educated, and a New England school-mistress when his father married her and migrated to the wilds of the West. What he knew of reading, writing, and arithmetic, he learned at his

mother's knee; what he knows of science he taught himself with an old text book on *Qualitative Analysis*, and a laboratory in a railroad car. There was nothing in his boy life to indicate his future career, except that he swallowed books, from Hume's *England* to Gibbon's *Rome*, and the *Penny Encyclopedia*, before he was 10 years old. He was an odd boy, generally half asleep, but with the swoop of lightning when he was aroused.

Two years later he began life for himself as a train-boy on the Grand Trunk Railroad, and went through an apprenticeship calculated to develop his latent shrewdness, mother wit, cleverness and self-poise to the utmost. It was Carlyle who said that self-poise makes the man; a man who cannot balance himself comfortably on a pin's point, is bound to be a nobody all his life; and to learn the art of balancing yourself on a pin's point, there is nothing like a few months' service as train-boy, or a few months' vagabondage as newsboy or bootblack.

office of the Detroit *Free Press*, he caught the knack of setting type, and by-and-by, at a favorable opportunity, he bought 300 pounds of old type, and started a newspaper on the train, which he called the *Grand Trunk Herald*—a little weekly about as large as an old-fashioned window pane. It was shown to some traveler, and got a notice in the *London Times* as the first venture of the kind ever essayed on a railway train. The boy had not capital enough to buy a press, and so took his impressions by pressing the sheets upon the type with the palms of his grimy little hands. The literary matter was contributed by brakemen, baggagemen, and other employes, and, as may be inferred, was racy, piquant, and sometimes decidedly personal. In 1862, while the battle of Pittsburg Landing was in progress, he conceived the idea of telegraphing ahead memoranda of news he was about to publish, and having them bulletined at stations along the route, and thus raised the circulation of his paper



Thomas A. Edison

The boy was enterprising, went into business with a will, and soon had four assistants. An old, defaced daguerreotype, taken at this period of his life, shows a little fellow, with a round, good-natured face and dirty hands, folding newspapers. The lips are wreathed with an expressive grin; it is Horace Greeley in miniature, with a glazed cap on the back of his head, and a greasy muffler round his neck. But the face has an expression of sterling honesty that one seldom meets in train-boys; and, withal, there is a dream in the boy's eyes that tells volumes to an acute observer—that far-away expression of thinking of something else, that marks the strange, double life of the man of extraordinary intellect in the most ordinary affairs.

His eccentricity soon found a way to make an exhibition of itself. He had his headquarters in the smoking section of an old baggage car, and here he surrounded himself with bottles and second-hand retorts, and conducted his rude experiments while the train was rushing along at the rate of 30 miles an hour, the car, which was springless, bumping up and down, and spoiling his calculations at most inopportune moments. By lounging about the

to a figure that made it profitable. His interest in telegraphy dates from this incident, his career, as so many others have done, thus turning upon an apparently trivial venture. Presently he met with an accident in his railroad laboratory, and blew out one wall of the baggage car, or something less serious, which put the conductor in a fright, and he was evicted, laboratory, bottles and all, to make room for a train-boy of less original intellect.

He had kept on absorbing books, though, during his brief career as a train boy, and, when he found himself adrift in the world, he knew Newton's *Principia* and Ure's scientific dictionaries by heart—not a large capital, either financially or intellectually. The real cause of the mishap he has always averred to be the dropping of a bottle of phosphoric acid while the car was in motion. The laboratory was instantly in flames; in rushed the conductor, threw the whole paraphernalia overboard, and gave the budding scientist a sound thrashing. His next unlucky adventure was the publication of a newspaper entitled *Paul Pry*, and true to its title, at Port Huron. The result was that an enraged subscriber, who had been unmercifully lampooned, threw the

editor into the river, although, as he claims, the splash was not within the limits of the legally libelous. He now appropriated the cigar of his father's because Port Huron to the purposes of experiments in telegraphy, where he constructed batteries out of stove-pipe, wire, old bottles, rusty nails, and such scraps of zinc as he could pick up about the house, or about other people's houses, which were all the same to the lawless young scientist, and his equally lawless assistants. But what he knew of telegraphing as a practical art, came about through an act of heroism. One day at Port Huron he rushed before an advancing train and saved the stationmaster's little boy from instant death. The man was grateful and taught him to telegraph. After this he turned shoemaker, but did not find it to his liking, and so at last obtained a regular situation as an assistant operator. He now gave his soul to electrical science with the fanaticism of a Henry or a Faraday, and had soon discovered what he styled "etheric force"—imperceptible to the galvanometer, capable of causing a spark to leap through 30 feet of empty space, probably the "odic force" of the German electricians. Theron's history, from the date when he recovered the connection between Port Huron and Sania (just across the river) with the notes of a steam whistle, is one of desultory wanderings; but he was one of those spirits whom a mythology follows—was to evolve ancestral reminiscences as they journey from town to town. The man may die in a farmer's barn some winter's night, but the mythology lives. At Stratford, Canada, he lost a situation by rigging a wheel to report the word "six" to the manager every half hour, to prove that he had not fallen asleep at his post; another at Indianapolis, because he kept the press reports waiting while he was engaged in experiments intended to develop new and more rapid methods of reception and transmission. At Memphis (1864), while he was working out his great idea of duplex transmission, he was suddenly turned adrift. At Louisville, one night, he tripped over a carboy of sulphuric acid that he had smuggled into the office for his own experiments, and rained the furniture of a banker's office in the story beneath. Of course he was sent about his business, with more curses than coppers. At Cincinnati there was a library too near the office, and he lost his situation through misdirected zeal for knowledge. But a curious faith in the "sweet by and by" kept alive his ambition. In 1868 a gawky young fellow appeared in the Boston office. He was assigned to the New York wire, operated at this end by Jerry Borst at that time, so rapid and expert that nobody could follow him. Jerry gave the new hand one trial at the top of his speed. It was a case of articulate lightning. But the gawky Western boy was equal to the occasion, and when he got through Jerry inquired: "Who the devil are you, anyhow?" The reply went back like lightning. "I'm Tom Edison, old boy. Shake hands, and try it again!" In Boston Edison tried his duplex system. It failed, and he was turned adrift again as an incorrigible Bohemian. Half in desperation, half in hope that there might be a place for him somewhere, he turned up in New York, after his Boston adventure with duplex transmission; and here a happy accident proved the pivot upon which his career turned. The indicator of the Gold and Stock Company got out of order at a critical moment, and the raw looking country boy repaired it. His case was now taken up by Mr. Orton, of the Western Union Telegraph Company, with the quick insight that made that gentleman's success in the world; and his subsequent triumphs have justified the first impression of his distinguished patron. His duplex transmission has become quadruplex transmission. He has amassed a fortune, married, and has a little Tom Edison in the nursery. He can say, after years of wandering: "The mountain is passed; our way, henceforth, is easy."

By Cable.

"I never was so surprised in my life, never! as when I heard that your father had given his consent," said Aunt Jane, with one of her provokingly righteous sighs; "I wouldn't trust the happiness of a cat with such a man."

"Well, they say reformed rakes make good husbands, so let us hope for the best," said Godpapa. I dare say he meant to be kind, but he laid a stress upon the "hope" which took all the curl out of it.

Emily Dod, who gives herself airs because she is six months younger than I am, and was married last September, was perfectly hateful with her "Keep a tight hand over him, my dear," as though she were a grandmother, and her wretched little

husband had never boxed her ears. He did box her ears before their honeymoon was over, as I happen to know.

Even dear gran' had tears in her sweet old eyes as she kissed me, and all she said was, "God bless you both," with a sigh.

And I was so happy, so triumphant! I had had such a long hard fight for my own way; I had won it. I had come out with a "see the conquering hero" air all over me; and, instead of having congratulations and pretty compliments showered on my feet, every one of the family whips out his or her wet blanket, and throws it over my head.

Of course, no one told me one-tenth part of what was said about us, but I heard enough to know this—the idea of Gerald's being seriously in love with *anyone* was considered a good joke; and the idea of my marrying him a bad one. And all because he was a little wild, has lovely eyes, and a soft, slow voice, and looks at you pleadingly. I have noticed him myself looking up into women's faces with that worshipping expression, and seen them bend down their ear to catch that thrilling voice, and oh! how it hurt—me. But he could not help it. It was his way. He didn't mean anything beyond making himself agreeable. When he did mean something, and really wanted to make love, he was such a stupid. I really thought he would never get the words out, and when they came they were addressed to a bow on my gown, not to me.

Long before we were married, he gave up all his old ways, and his old haunts, and went into business; astonishing every one (but me) with the ability and determination he brought into his new career. If he had been a prince in a fairy tale, with three magic gifts, he could not have got on better. He had three magic gifts—love for me, and more love for me, and more love again. So he said, looking me in the face this time—that happy day when papa could stand it no longer, and had his consent worried—yet I admit there is no other word for it—scorched out of him.

The first six months of our married life passed like a dream. Imagine a husband who is a lover, and a dear friend who is both; and that would be my Gerald. I was so happy; till one miserable Wednesday, when he came home at two o'clock, and said he must start at five to catch the steamer which was to sail the next morning from Liverpool for New York! "Take me with you," I cried. Man-like, his first thought was packing up, and he told me I could not be ready in time. He looked pale and worried, and left me full half an hour before there was any necessity to go. And he would not let me see him off. He hated to be seen off, he said, and was almost cross about it. "A month will soon pass," he said. "A month," I almost screamed, "why, you told me just now your business would only take a few days." "No more it will," he answered, "but the voyage out and home will take twenty." "Oh, Gerald," I pleaded, "why can't you write or telegraph; what's the use of the Atlantic cable they make so much fuss about, if you must go all that way yourself?" "I have written and I have cabled," he replied a little gloomily, "and it's no use, Dimplex" (that was his pet name for me; wasn't it a pretty one?) "I must go myself," and he went.

He went away for a month, and stayed three. Business was going wrong. What business? He never told me. That's the way with men. Suppose we want money, and say it's for dress; they'd ask directly, "What dress? what do you want it for? what sort do you want? why won't what you have do? what is it to be made of? what color will it be? and all sorts of other foolish questions about what they never *can* understand; but let us ask "what business?" and they laugh or get grumpy.

He returned at last looking old and careworn, and from that moment his habits changed. Time was when he would often rush home in a hansom at three o'clock, and call up the stairs, "Holloa, Dimplex! Nothing to do; get on your things and come out for a drive." Now it was six or seven before he showed his face, and then he would have a horrid black bag full of papers, over which he sat half the night. And he turned so stingy, though every one said he was coining money. When baby came he brightened up, and I must say was very tender and thoughtful, until I was about again. Then he went back to his old bad ways. Always at the office—always thinking business.

Jealous? Of course I was! I was horribly jealous. I know all you can say about jealousy. Papa preached, mamma scolded, Aunt Jane sighed, and Emily had her little say, of course. It was wicked, it was foolish, it was undignified. Pride ought to conquer it, self-respect to ignore it, religion to root

it out. The old story! Let a woman swallow a table-spoonful of salt, and argue her out of being thirsty; and then you may go and persuade one who has loved not to be jealous. They all had their remedies, as though it were a cold in the head. I was to be more loving to him; I was to treat him coldly; I was to mope, and show him how it grieved me; I was to flirt, and prove that I did not care; I was to insist upon an explanation; I was on no account to allude to the subject; I was to bear it; I was to resent it; I was to blow hot, I was to blow cold; I was to blow up—and so on. Papa and the rest sided with Gerald, when they saw how right I had been about his steadying down, and yet they sided against me when I showed how he was relapsing. If I was right as a young, innocent, inexperienced girl, why should they contradict me when I was a wretched but experienced wife! There was no common sense or logic about them.

Well we went on from bad to worse, till one horrid day, about a year after his trip to America and back—shall I ever forget it!—when I returned from a walk with baby, and found that he had been home, and packed up his bag, leaving a message—not a note, but a message if you please, with a servant—that he would not be back for two days. I went up to his room, by instinct, I suppose, and there in the fire place crumpled up, I saw one of those horrid yellow telegram papers. Something told me that it would be the clue to his sin and my disgrace. I opened it, and my head swam as I read this—

"Susie, Baby, Immediately, Liverpool."

Could fair words tell the tale of horror more plainly? Susie and her baby would be at Liverpool, where his presence was required *immediately*; at Liverpool, where the steamers from New York arrive on a Monday, when most of them are due—I knew that, for how I had counted the hours for him!

It was half past four. The express would leave Euston at five. If I could catch it, and face him on the threshold of his infamy? I stopped a hansom, and promised the driver half a sovereign if he took me there in time. You know how cabmen *will* go through horrid dirty, narrow streets for short cuts. As bad luck would have it, we got grounded somewhere near Tottenham Court Road, and when I rushed on the platform the train had started. In a smoking carriage, leaning back so intent over another telegram that he did not notice me, I saw my gentleman with a smile on his face. Thinking how nicely he had escaped me—no doubt.

Again my once loving anxiety about him stood me in good service. I dashed off to Lily's, and asked about the American steamers. The fastest had only just reached Queenstown. I had sixteen hours to spare. I took the next morning's train, and reached St. George's landing stage just in time to see the tender with the "Britannia's" passengers arrive. There were only about forty of them, and they looked as though they had had a dreadful passage. I was very glad of it. This seems unkind to the thirty-nine, but I couldn't help it. *If she* arrived looking limp and miserable, it would be some comfort. I had taken care to appear as nice as I could be.

The thirty-nine, mostly bagmen, I think, came on shore, went fussing after their baggage, and there was a pause. I saw a good many gold-faced blue caps bobbing about some one who was yet on board, and then there tripped down the gangway a woman, followed by a *bonne* and a baby!—a young woman looking disgustingly fresh and well, as fair as I am, and dressed—the wretch was dressed simply to perfection! The only comfort I found was that she appeared scared and sad. She evidently had expected some one to meet her, and he was not there. No, I had looked about carefully, and my gentleman was—not there. I soon saw why. As she passed along the plank, the purser or some such creature hurried up with a letter, which she took with a smile—I believe she had been flirting with him all the way across. She opened the note with a little sob. Then the expression of her face changed. It was all right. He was too cunning to meet her there in public. He had given her the rendezvous somewhere else.

I followed her. The custom-house officers were most remiss in their duty—they passed her things without so much as looking into them. The chief examiner, who ought to be dismissed, kissed the baby. Then she drove to the Northwestern Hotel, and later her. She must have a sitting room and bedroom on the first floor, and must be told the moment that the 4:35 train was signaled at Edge Hill. I arranged to be told, too, and was ready for her—and him. Well, in came the train, a local one, and before it had stopped that woman was being hugged

in a brown ulster which did not belong to Gerald Carruthers.

I never was so crestfallen! Here had I been wasting precious time on the wrong scent, while he might have been on the landing stage at the right moment, and have carried his Susie away almost under my nose.

I went back to the river as fast as I could, and found that I had missed the Italian passengers. Still there was a chance. The steady-going but old-fogy Cunarder was not expected till the next morning. I took a room at the hotel, telegraphed home that I was detained, and waited. Would you believe it? That night I picked up a sort of acquaintance—through the baby, I think—with that woman I had taken for "Susie." She was the wife of a captain in the navy, and had been living at Halifax, Nova Scotia, so as to be near him. He had come home on private affairs, and, quite unexpectedly, had got promoted to a command in the Mediterranean. So she had to come back and join him alone. "I noticed you on the landing stage," she said, "and sympathized with you so much. I had arrived, and there was no one to meet me. You were there to meet some one who had not arrived. We were both disappointed. Never mind! he will come to-morrow." Of course I let her think that it was my husband I was expecting, and of course I declined their offer to go with me to the landing stage in the morning.

There was nothing in the least resembling a "Susie," and absolutely no baby, on board the "Russia." I could have sat down on one of those dumpy posts and cried. What was I to do? I had started full of confidence that I should catch Gerald out, and had not thought of making any plans to cover a retreat or excuse a failure. How—if Gerald arrived home before me—was I to account for being nearly two days away from his roof—alone? He had covered up his tracks, as the Americans say; it was impossible for me to obliterate mine. His escapade had succeeded; mine had failed. I should have stopped at home, and confronted him on his return with that cablegram. He might have sworn till now, and no rational woman would have expected me to believe him. Now he had simply to say, "There's nothing in it, my dear; you went yourself to see, and know it is so."

I started for home immediately. When the train stopped at Rugby, the passengers rushed off to the refreshment rooms, and as the guard (who had been very civil heretofore) did not come to see if I wanted anything, I leaned out of the window to ask somebody to call him. There was a group of three passengers standing close by, and I had got so far as, "Oh, would you mind—," when one of them cannoned through the other two, and before you could say "trap stick!" Gerald was sitting opposite me, and all my appetite gone.

"Why, Dim—," he began, but checked himself. "Where have you been? why—what has happened? Is anything wrong? Where are you going?"

"I really cannot undertake to answer so many questions all at once," I replied, with what I knew was a vulgar sniggle.

"It is all one question," he said gravely; "what are you doing?"

"Business, my dear," said I. The imitation of his tone and gesture was perfect, and I put one of my own mocking smiles at the tail end of it for a sting.

"I think upon reflection you will consider that hardly a proper manner of replying to your husband, Mabel," getting graver and graver.

"It is one which my husband has so often used to me that I suppose I have adopted it unconsciously. Imitation is said to be the severest sort of flattery," said I.

"You know perfectly well that you are talking nonsense," he answered. "As you do not appear to have sufficient respect for me to answer a single question, I shall show you that I have some respect for myself by not repeating it."

He was looking so well, so bright and handsome, and, with all his wickedness, spoke so like a gentleman! I almost began to relent, but the thought, "what has brightened him up?" set my teeth, and hardened my heart.

"Rather a cheap way of buying off inquiry from your own doings," I snapped.

"Would you like an account of my doings?" he asked. There was a twinkle in the corner of his eye, and a twitch at the corner of his lip that angered me.

"I should, indeed," I replied; "only I am not prepared to take your version of them."

"Meaning, that in your opinion I would stoop to a falsehood?" said he.

"Stoop? Oh no," I sneered. "A man does not think that he stoops to tell a lie when it is to protect a woman, even though it deceives a wife."

"Mabel," he began, "there is not an act of my married life—," but I stopped him there. It is bad enough to know that one's husband has deceit in his heart; it makes it worse to stand by and see the foul thing dragged out of its den.

"Stop!" I interrupted, taking the cablegram from the pocket of my traveling bag; "read that, before you go on."

"Where did you find this?" he asked, in a quick sharp voice, as though he were speaking to a clerk.

"In your room, under the fireplace. You thought you had burned it; but not a word is obliterated—"

Susie, Baby, Immediately, Liverpool.

You should not bring such things to the house, Gerald," I went on with perfect composure and the deadliest smile. "You should keep them at the office."

"I should, indeed," he replied, half to himself.

"I saw you start for Liverpool immediately," I resumed. "I met you coming back from Liverpool. I missed you there. It is, perhaps, better that I did. A scene on the landing stage would not have been pleasant."

"Is—it—possible," he almost gasped, "that—you followed me—for this?" flicking the yellow paper with his nail.

"Well, yes," said I. "I cared enough for you to try and save you from—yourself. But don't be afraid, I won't do so again."

"You played the spy upon me, Mabel," his voice quivering with suppressed anger.

"The poorest sort of reproach!" I cried, indignantly; "the last resort of a detected cheat."

"Cheat!" he thundered.

"Yes, cheat," I re-echoed him. "It isn't in your code of morals, but I think, and always shall think, that a man who robs a poor girl, who has fought and suffered for him, of the love he swore to give and keep for her, is the lowest and most heartless sort of cheat. There!"

By this time the train had started again, and, as good fortune willed, we were alone in the carriage. He sank back into his seat pale as a sheet, and trembling all over. "We will not pursue this subject," he said. "If ever it is re-opened, it will be by you."

Not another word passed our lips till we got home. After dinner—such a dinner!—I said, "Pray do not let me detain you from—business."

"Thank you," he replied. "I have nothing to do to-night."

"Nor I either," I followed; "so, with your permission, I will go and do it in my own room." I left him with a sweeping curtsy, and he replied with one of his stately bows.

I was the most miserable woman in London. I felt that I could not be mistaken, and yet I did not dare to go on, and make assurance sure. He was painfully polite, came home early from his office, and passed much of his time with baby. Think how much I must have loved him, when I confess that I took his kisses off her innocent lips, hoping that he was sorry, and would some day be my own again.

One morning I noticed a dirty old book on the drawing-room table—a greasy, much thumbed thing that I hardly liked to touch. Thinking that one of the servants had left it there by mistake, I rang to have it taken away. No one owned it, and "If you please, mam," said Roberts, the butler, "I think it belongs to Master, and is a sort of dictionary he has for things at the office, and that." When he left the room I opened it, but what a queer one! The page at which I opened it had a row of names belonging to vegetables—thus:

Artichoke.	Cabbage.
Asparagus.	Cauliflower.
Beetroot.	Cucumber, and so on.

Against these, in a parallel column, were printed—

Vessel insured.	Vessel insured, but not the cargo.
Vessel fully insured.	Cargo insured, but not the vessel.
Vessel and cargo insured.	Cargo partly insured.

A little further on was a list of furniture.

Table.	Chair.	Sofa, etc.
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And it would seem that "Table" meant "Tonnage to England A1. wanted!" Opening here and there at random, I found that London was Whisky, and by some strange perversity, Whisky was London. Now, why shouldn't London be London, and Whisky, Whisky! I have heard Gerald speak of "bulls"

and "bears," and found out from the *World* that they are people who gamble in the city; but in this book a bull was "ten o'clock in the morning," and a bear "at close of market yesterday." A tiger was yesterday, and pig to-morrow.

I turned back to the title page and found, "XL Code, (partners only), Stephenson & Carruthers, London; Marks, Grey & Co., New York; William P. McGregor, Chicago." "Partners only! Then there is some secret here," I thought, holding the dirty old book gingerly, as though it were a torpedo. Then I noticed that some of its pages were turned down. Well, if Gerald, after the lesson his carelessness had already received, would leave his office things about in my drawing-room, there would be no great harm—"Why, what on earth have Stephenson and Carruthers, or the people at Chicago and New York to do with children?" I exclaimed. I had opened the book again mechanically, and my eye fell on a page headed "Nursery," followed by

Baby.	Boy.	Coral.
Bassinet.	Candle.	Cradle.

If you don't see it all now, you are more dull than I take you to be. It flashed upon me like a—like a new fashion. It was a secret code for telegraphing! The next turn-down was at a page full of women's pet names—Annie, Bessie, Carrie, Effie, Florrie, down to *Susie*; and what do you think "*Susie*" stood for? It's not a bit of good, your trying to guess. It stood for *Number one Spring wheat*, and *Annie* was *white corn*, and "*Bessie*" *yellow corn*, and "*Florrie*," if you'll believe me—*potatoes*!

So after a little trouble I translated that cablegram, over which I had nearly broken my heart, thus:

"*Susie*" (No. 1 Spring wheat) Baby (large supplies on hand) Immediately (prices falling) Liverpool (cable orders at once).

No. I'm not going to tell you how I ate my humble-pie. I made it big and bitter. Toads and snails and puppy dogs' tails were delicacies in comparison to the ingredients I put in—for, oh! how I hated myself. But I had hardly swallowed one mouthful when he folded me in his arms, and said, "Darling, it's more than half my fault. I ought to have taken you into my confidence, and told you why I was so apparently neglectful of you, and so preoccupied. At first everything went well with me. The new ideas I brought into the business were sound enough, but I soon saw that I had not sufficient technical knowledge to work them out myself, and that others who knew more of the dry machinery of commerce than I did were stupid, or jealous, or both. What is true of trotting, Dimples, is true of trade. The speed of the team is that of the slowest horse in it. I confess I got our affairs into a bad sort of tangle. I almost heard fellows saying, 'Oh, he's one of the flash in the pan sort—a man to-day and a mouse to-morrow. Of course he's made a mess of it.' I hated to let you think that I had blundered—you who were always praising my cleverness. I knew I could pull through, and so I did; but even after I had come back from America and fixed things my own way, Stephenson was timid, and, I am afraid, distrustful; and I had to work on—so to speak—with one arm hid behind my back. This is what made me cross and silent. But it's all over now, thank God!"

"And there isn't any *Susie*?" I whispered.

"Lord bless you! Ship-loads of her!" he replied in triumph. "That was my grand coup. I cabled back, 'Buy all you can get,' and rushed off to Hull and Manchester to sell for the rise that was sure to come on account of the war."

"Then you didn't go to Liverpool at all?" I asked.

"No," he said; "I joined your train at Crewe. I told you that if the subject of our conversation at Rugby were reopened, you would have to do so. You have done so. Now I shut it up forever, and seal it—so."

I think he let me off very easy—bless him! but don't you girls rush at conclusions as I did, and think you are going to get off as well. Many a husband would have made me eat all that humble-pie up to the last bitter scrap, and have not given me anything for years to take the taste of it out of my mouth. It was no merit of mine that I had only to nibble at the kissing crust.—*Belgravia*.

A correspondent of the *Richmond State* calls attention to the fact that Joseph Addison, 167 years ago, on December 6, 1711, described minutely telegraphy, together with the latest improvements, automatic telegraphy. It may be found in the *Spectator*, No. 211.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY.

W. J. JOHNSTON, - - - Publisher.

February 1st, 1879.

' No matter what you want from New York, whether it be in the line of Telegraphic goods or not, send the order to us. We will see that you get exactly what you want, and at the very lowest price, never charging you more than if ordered direct, and very often considerably less.

"BY CABLE," in this issue, will be found a remarkably well-written story, which none should neglect to read.

By advertisement on the 1st page of this issue it will be seen that Messrs. Davis & Watts, of Baltimore, are closing out their stock of Universal Dial instruments at about half former price.

WESTERN Union stock on Wednesday last advanced from 97½ to 100, and finally closed at 101½. On Thursday it opened at 102, rose to 103, broke to 99½, and closed at 99½. On Friday it closed at 101½.

EDISON's first English patent for the electric light was sealed January 14th. This is the patent that was unsuccessfully opposed by Russell. Edison has two other applications for patents pending in England which are not yet sealed.

THE cuts, etc., of Mr. Jesse H. Bunnell's improved switch, spoken of a few issues ago in THE OPERATOR, will be found in this issue. It is the opinion of leading electricians that Mr. Bunnell's style of switch will become at once the general favorite wherever it is known.

A CABLE dispatch from London says that reports from Brittany and other French provinces represent that heavy snow-falls are interrupting telegraphic and railway communication. The London Times announces that much of its Eastern news is delayed by interruptions of the wires between Paris and Vienna.

! PROCEEDINGS have been instituted in the United States Circuit Court, before Judge Blatchford, to compel the Gold and Stock Telegraph Company to pay the royalties claimed under the Simpson patent for gutta percha electrical insulators, as the Western Union Telegraph Company has recently been compelled to do under the judgment in the Colgate case.

DESIRING to increase our list of subscribers by several thousand, if possible, within the next sixty days, we shall send free by mail, postage prepaid, to every new yearly subscriber or renewal received during that time, a beautiful engraving of Prof. S. F. B. Morse as a premium. We would draw the attention of intending subscribers to the low rate at which the paper and one or more of the books are clubbed together. U. S. one, two or three cent postage stamps will be received as cash, though we prefer post office orders, drafts, or bills.

The Cipher Dispatches.

The translating of the now celebrated cipher telegrams was truly a most ingenious piece of work. As telegraphers will naturally be much interested in anything which so nearly concerns their business, we give herewith a brief history of the dispatches referred to, with an account of how they came to be made public; the names of the gentlemen who translated them, and the *modus operandi* of that proceeding.

When the late Mr. Orton delivered to a Committee of Congress the political telegrams transmitted over the Western Union lines during the Presidential campaign of 1876, the messages were examined, and the greater portion of them returned again to the company. After Mr. Orton's death those so returned, with the exception of one or two that had passed between Mr. Tyner and Zach. Chandler were burned in the large furnace in the cellar of the Western Union building in this city by Mr. James O. Green, son of the present President of the Western Union Company. A large number of the dispatches which had passed between the managers of the Democratic party, however, were not returned. These were in cipher, and therefore could not be read, but the Republican Congressmen into whose hands they fell surmised that they contained political secrets likely to damage the other party.

Copies of a large number of these cipher telegrams—nearly 400—were made and forwarded by Gen. Brady, Third Assistant Postmaster-General, and W. E. Chandler, to Whitelaw Reid, editor of the New York Tribune. The original dispatches to the number of 641 were left by W. E. Chandler at General Butler's office in Washington, where they remained until a few days ago, when General Butler delivered them to the Congressional Committee now investigating the matter.

The Tribune began publishing the ciphers during the summer of 1878. When the "Gobble" message, which attracted so much attention at the time, was published, a Western business man sent the Tribune a translation, the message being in what is known as the "dictionary cipher," a modification of which the Democratic agent in Oregon had previously used in connection with mining transactions. In the "dictionary cipher" the first word of the message to be sent is sought in a dictionary previously agreed upon, and the word on the same line a certain number of pages forward or back substituted, and in like manner with the other words in the message. In this case the dictionary used was the "Household English Dictionary" published by T. Nelson & Sons, London, and the telegram was translated by turning back four pages.

The dictionary cipher was also used in a few of the Florida and South Carolina telegrams, but not the same dictionary. It was found after a long search to be this time "Webster's Pocket Dictionary of the English Language," and the number of pages to be turned varied from one to five. This permitted the Tribune to read all the dictionary ciphers in its possession. Samples of the other cipher telegrams were then published from time to time, in the hope that somebody else might be found who could throw some light upon them. No information, however, was received.

A number of the dispatches were then given to Mr. R. G. Hassard and Colonel William M. Grosvenor of the Tribune staff, who set about translating them independently of each other. For some

weeks nothing was accomplished, but after much labor, both, about the same time, discovered the systems on which the ciphers were constructed.

Besides the dictionary ciphers there was one in which numbers were substituted for words desired to be kept secret. This was generally used in combination with another. Some of the messages were composed wholly of figures, while others consisted of the substitution of one letter for another. Another cipher was constructed by using arbitrary equivalents for "tell-tale" words. Very many of the messages, however, were in double cipher—a cipher within a cipher.

In the first place arbitrary words—generally geographical proper names—were substituted for all tell-tale expressions. After that the message was broken up and dislocated, and the words completely changed around, as if they had been shaken in a bag, drawn out at random, and set down as chance indicated. For instance, here is the beginning of a long dispatch in this double cipher. It is complete in sense as far as it goes, and shows the difficulty of the task before the translators, who, of course, had no key, nor anything else to aid them in deciphering the messages:

Have Rhine river as is of follows Edinburgh river Mississippi been of Rhine Copenhagen river Rhine Syracuse parcel to secured Danube Potomac river sent Chicago London Edinburgh be river of.

When the meaning of all the words is understood, it will generally be found that a transposed dispatch can be rearranged in a variety of ways, all making good sense and good grammar, but all disagreeing hopelessly in significance; and when the perplexity is increased by the introduction of a number of blind words, of which one does not even know whether they are nouns, or verbs, or adjectives, the attempt to reconstruct the sentences without the aid of a key is almost hopeless. And yet the proper sequence of all the words *must* be ascertained before even an intelligent guess can be made at the meaning of any considerable number of the blind words. The double cipher is, therefore, one of the most difficult cryptograms ever devised.

The translators exhibited great ingenuity in getting at the meaning of the arbitrary words substituted for the names of persons, States, numbers, etc. They found, for example, that Copenhagen stood for dollars, Greece for Hayes, Russia for Tilden, Moses for Manton Marble, London for Canvassing Board, Rochester for votes, etc., and that names of rivers represented numbers. For instance, Moselle was 2, Thames 3, Danube 5. Glasgow represented 100, and Edinburgh 1,000. Then there was a number cipher, in which one represented telegraphic credit; four, Have you arranged or deposited; twenty-one, telegraph, etc.

The first discovery made was a shrewd guess that "Warsaw," which occurred frequently in the messages, signified telegraph or telegram. A ten-word message was then readily translated as follows:

CIPHER.

Warsaw they read all unchanged last are idiots can't situation.

TRANSLATION.

Can't read last telegram. Situation unchanged. They are all idiots.

The words in this dispatch are transposed in the following order: 9, 3, 6, 1, 10, 5, 2, 7, 4, 8. That is, the ninth word comes first, the third second, and so on.

This key, however, only held good for ten-word messages. Longer dispatches were constructed upon a different system. The translators found that the number of words in each transposed telegram was a multiple of five, and, therefore, concluded that the key to be used depended altogether upon the length of the message. Five 30-word dispatches were selected from the bundle. Written out in parallel columns, one word above the other, and each word numbered, as below:

No. of Word.	First Dispatch.	Second Dispatch.	Third Dispatch.	Fourth Dispatch.	Fifth Dispatch.
1...	Me	Very	Figure	To	Rochester
2...	you	news	France	situation	prospect
3...	do	say	capture	and	answer
4...	to	Copenhagen	to	and	America
5...	did	to	over	Africa	yesterday
6...	to	from	what	desperate	to-day
7...	question	can	see	intend	understand
8...	when	Florida	answer	Thames	Thomas
9...	you	count	Europe	soon	my
10...	you	much	Russia	report	Africa
11...	to	in	shall	every	about
12...	morning	he	little	mischief	but
13...	asked	want	give	the	first
14...	where	what	and	Warsaw	avail
15...	go	Louisiana	about	at	once
16...	supposed	am	best	dispatch	my
17...	this	placed	hope	in	nothing
18...	until	if	Glasgow	acting	Bavaria
19...	come	mixed	will	this	as
20...	to-night	insure	up	will	will
21...	important	London	keep	state	Copenhagen
22...	and	Oregon	all	concert	once
23...	answer	few	America	morning	reported
24...	here	intend	be	parties	small
25...	Warsaw	things	can	France	by
26...	adjoined	out	Potomac	in	and
27...	to-morrow	a	Edinburgh	behind	satisfied
28...	London	us	I.	received.	hope.
29...	.. you..?	here.			

An effort was then made to arrange the numbers in such a manner as to make sense of all five columns equally. It was no easy task, but, after repeated experiments and close study, it was found that the words were transposed in the following order: 17, 30, 26, 1, 11, 20, 25, 5, 10, 29, 27, 19, 28, 24, 4, 7, 13, 18, 12, 22, 21, 15, 3, 9, 14, 2, 6, 16, 23, 8.

Telegrams of 15, 20, and 25 words were next tried, and the respective keys discovered after considerable study and experiment. For long messages a combination of keys was used. For instance, a 60-word message was deciphered by applying a 30-word key twice, a message of 75 words by applying, first, a 15-word key and then a 30-word key twice, and one message of 135 words had to be translated by no less than five keys, a 15, 25, 25, 20, 25, and 25 respectively. Sometimes the message itself gave the key by which it was to be interpreted. Thus a telegram from Manton Marble to Colonel Pelton began: "Repeating 25 cipher only," and several repetitions of a 25-word cipher did interpret it. Another—a telegram of 200 words, also from Mr. Marble—begins: "Use four times five cipher," and was translated by applying 4x5—that is, a 20-word cipher four times. Sometimes a word was dropped in a dispatch, either by the sender or the telegraph operator. This necessarily disarranged the whole message, and a repetition had to be telegraphed for.

Space forbids further details, or the publication of any of the telegrams. There is one, however, which shows that, on account of the dropping of four words in transmission, an attempt to buy an elector was frustrated. Manton Marble had telegraphed from Tallahassee, according to the published translations, that he could secure a Tilden decision of the Board and certificate of Governor for \$200,000. To this Colonel Pelton replied accepting the proposition. Four words of the message were dropped, however, in transmission,

which, of course, rendered the reply unintelligible. A repetition was asked for, but before it could be received the Returning Board had completed its work and given its vote for Hayes. Referring to this, the *Tribune* says: "If in the secret purpose of any trusted and sworn member of that Board of three, upon whose action depended the fate of forty millions of people, there lurked a thought of treachery and crime, the God of Nations saved this land from ruin and dishonor, for his lightnings refused, until it was too late, to bear intelligibly the shameful order to consummate the crime, and held their secret until the danger had passed. He turned to foolishness all the schemes of Gramercy Park, and all the money of Wall Street. The secret cipher meant nothing when four words were gone. It came at last in full; the buyer stood ready and the money was there, but the vote was not delivered, and the Nation escaped disgrace."

AERIAL TELEGRAPHY—Professor Loomis of Washington, appears to be still enthusiastically carrying on his experiments in aerial telegraphy in West Virginia. Aerial telegraphy is based on the theory that at certain elevations there is a natural electric current, by taking advantage of which wires may be wholly dispensed with. It is said that he has telegraphed as far as eleven miles by means of kites flown with copper wire. When the kites reached the same altitude or got into the same current, communication by means of an instrument similar to the Morse instrument was easy and perfect, but ceased as soon as one of the kites was lowered. He has built towers on two hills about twenty miles apart, and from the tops of them run up steel rods into the region of the electric current. The Professor announces that he has recently discovered that the telephone can be used for this method of communication as well as telegraphic instruments, and that of late he has done all his talking with his assistant, twenty miles away, by telephone, the connection being aerial only. He claims that he can telegraph across the sea without other wires than those necessary to reach the elevation of the current. There seems no immediate probability, however, of our getting on without poles and wire and ocean cables.

An advertisement of Mr. G. B. Pennock's popular song and chorus, "Jennie is Waiting for Me," will be found in this issue. Mr. Pennock is a frequent contributor to *THE OPERATOR*, in prose and verse, under various *nom de plumes*. His "Jennie is Waiting for Me" has been a great and deserved success. The fraternity should recognize talent of this kind by liberally patronizing such publications, and thereby encourage Mr. Pennock to "do so some more."

THE break in the direct cable which occurred January 4, as already reported in *THE OPERATOR*, was located January 19th about six miles from Torbay, and in water from twenty to twenty-five fathoms deep. Arrangements were at once made to overrun and repair it.

WE would draw attention to the advertisement of the Goodyear Rubber Tubes and Health Lift on page 14 of this issue. There is no better health appliance in the market for warding off consumption, and telegraphers can make no more judicious investment.

Themes for the Thoughtful.

Censure is the tax a man pays to the public for being eminent.

Poverty is in want of much, but avarice demands everything it has not.

Temperance gives nature her full play, and enables her to exert all her force and vigor.

Virtue makes men on the earth famous, in their graves glorious, and in heaven immortal.

He who shows kindness toward animals will display the same characteristic toward his fellow-men.

A man may have a thousand intimate acquaintances, and not a friend among them all. If you have one friend, think yourself happy.

We paint our lives in fresco. The soft and fusil plaster of the monument hardens under every stroke of the brush into eternal rock.

No matter how many of our laden ships may come safely into port, that one which was lost at sea will always seem to us to have carried the richest cargo.

How beautiful is youth: a little moonshine, a few musical water-drops, the strain of a song, and the young hearts experience poetry as it never could be intrusted to paper.

No man can go down into the dungeon of his experience, and hold the torch of truth to all his dark chambers and hidden cavities, and not come up with a shudder and a chill, and an earnest cry to heaven for mercy and cleansing.

It is easy to pick holes in other people's work, but it is far more profitable to do better work yourself. Is there a fool in the world who cannot criticize? Those who can themselves do good service are but as one to a thousand compared to those who can see faults in the labor of others.

Charity, or love, is the connecting link which unites earth to heaven, and man to man. While this remains secure, justice, benevolence, truth, conscientiousness, will form parts of that beautiful whole, without which the bond of society must be unrooted, and this earth relapse into a second chaos.

Never cast aside your friends if by any possibility you can retain them. We are the weakest of spendthrifts if we let one drop off through inattention, or let one push away another, or if we hold aloof from one through petty jealousy or heedless slight or roughness. It is easy to lose a friend, but a new one will not come for calling, nor make up for the old one.

Till we have reflected on it, we are scarcely aware how much the sum of human happiness in the world is indebted to this one feeling—sympathy. We get cheerfulness and vigor, we scarcely know how or when, from mere association with our fellow-men, and from the looks reflected on us of gladness and enjoyment. We catch inspiration and power to go on from human presence and from cheerful looks.

It is an exquisite and beautiful thing in our nature, that when the heart is touched and softened by some tranquil happiness or affectionate feeling, the memory of the dead comes over it most powerfully and irresistibly. It would almost seem as though our better thoughts and sympathies were charms, in virtue of which the soul is enabled to hold some vague and mysterious intercourse with the spirits of those whom we dearly loved in life. Alas! how often and how long may those patient angels hover above us, watching for the spell which is so seldom uttered and so soon forgotten.

There is nothing praiseworthy about extravagance. The man who takes care of his earnings is far more respected than he who squanders all in "riotous living." So with the young lady. Although she may spend her last dollar in the purchase of a new shawl, and follow the whims of fashion as closely as does the fashionable young lady in society who has thousands at her disposal, she cannot even make people believe she is richer than she really is; and is more likely to incur suspicion as to her rectitude of character, and keep away such young men as make good husbands from her society, than if she lived prudently and dressed plainly.

Don't Stop My Paper.

Don't stop my paper, printer,
Don't strike my name off yet;
You know the times are stringent,
And money hard to get;
But tug a little harder,
Is what I mean to do,
And scrape the dimes together,
Enough for me and you.

I can't afford to drop it;
I find it doesn't pay
To do without a paper,
However others may.
I hate to ask my neighbors
To give me theirs on loan;
They don't just say, but mean it,
Why don't you have your own?

You cannot tell how we'd miss it,
If it, by any fate,
Should happen not to reach us,
Or come a little late;
There all is in a hubbub,
And things go all awry,
And, printer, if you're married,
You know the reason why.

I cannot do without it,
It is no use to try,
For other people take it,
And, printer, so must I.
I, too, must keep me posted,
And know what is going on
Or feel, and be accounted
A foxy singleton.

Then take it kindly, printer
It pay me somewhat slow,
For cash is not so plenty,
And wants not few, you know.
But I must have my paper,
Cost what it may to me,
I'd rather dock my sugar,
And do without my tea.

So printer don't you stop it,
Unless you want my home;
For here's the year's subscription,
And credit it right down;
And send the paper promptly
And regularly on.
Bringing us semi-monthly
Its welcomed banison.

J. S. McG.

BROOKLYN, N. Y.

Electrical Progress in 1878.

In 1877 a distinct advance was made in telegraphic science by the development of the speaking telephone; but during the past year there have been no less than three notable advances, which reflect honor upon the electrical profession, namely, the invention of the microphone, the development of the phonograph, and the introduction of electric lighting. Following upon the speaking telephone of Prof. Bell, the talking phonograph of Mr. Edison was announced as a new and greater marvel at the latter end of 1877; but it was not brought into a practical form until the early part of 1878, when it was exhibited to astonished and admiring audiences in America and England. Although all the magical uses conceived for it in the future by its imaginative inventor may never be realized, we do not doubt that it will ultimately prove serviceable as a vocal signalling appliance as well as a sound repeater, and already it has tended to increase our knowledge of the parts of speech. The phonograph has talked its author into a world-wide name; and it will ever remain a monument to the strength of his inventive genius. But public surprise at the phonograph was soon diverted to a third marvel, the microphone. Discovered by Prof. Hughes, in a truly scientific manner, and perfected by him in solitude, its announcement by Mr. W. H. Preece to the Society of Telegraph Engineers took the world by storm. The telephone enables us to speak to distances far beyond the reach of eye or ear, the phonograph renders it possible for us to seal the living speech on brazen tablets, and store it up for any length of time; while it is the peculiar function of the microphone to permit us to hear those minute sounds which are below the range of our ordinary powers of hearing. By these three instruments we have thus received a remarkable extension of the capacities of the human ear, and an accession of dominion over the powers of nature. We have now a command over sound similar in kind to that which we possess over light. For the telephone is for the ear what the telescope is for the eye, the phonograph is for sound what the photograph is for light, and the microphone finds its analogue in the microscope. The carbon microphone, used in connection with a battery, and an ordinary electro-magnetic

receiving telephone, has already proved a practical instrument for sending articulate sounds, with this advantage over a transmitting telephone, that the vocal currents are stronger, and not so readily drowned by the induction clamor resulting from messages passing over neighboring wires. Very soon after the microphone was given up to the world, it was observed by Mr. James Blyth of Edinburgh, and by Professor Hughes himself, that certain forms of the instrument acted as distinct receivers of sounds as well as transmitters, the carbon surfaces in contact being heard to emit audible speech and singing. As yet, no practical instrument has resulted from this property, although Prof. Hughes' "hammer and anvil" microphone, mounted on a resonance box, gives very promising effects. The microphone has been utilized in surgery by Sir Henry Thompson in the operation of lithotomy, and by Prof. Rosetti in observing the earth-vibrations which shake Vesuvius previous to eruptions. Professors Houston and Thomson, of Philadelphia, have also applied it as a useful relay for telephone sounds.

The discovery of the microphone was unfortunately marred by one of those controversies as to priority of authorship which sometimes rattle the serene onflow of science. Mr. Edison, the inventor of the phonograph, claimed that the microphone was a plagiarism of his carbon telephone, and preferred a charge of piracy against Prof. Hughes and Mr. W. H. Preece, who, he said, had seen all his experiments while in America in 1876, and had told the microphone secret to Prof. Hughes. A portion of the American press espoused Mr. Edison's side of the affair, and chose to regard Mr. Preece as virtually the thief of the microphone from Mr. Edison, while Prof. Hughes was looked upon as the receiver of the stolen goods. The oddity of a thief who made haste to exhibit his plunder to the public; and of a receiver who freely gave it in turn to the world, did not seem to strike these American writers; but a letter from Sir William Thomson, who was in a certain sense arbiter of the question, cleared away many of the aspersions vented by the American press, aspersions alike unworthy of journalism and science. Happily, the storm has now passed by, and the merits of the case may be calmly studied by those so minded. However it be in America, we may say that in Europe, while Mr. Edison is considered justly entitled to honor as the inventor of the carbon telephone, Prof. Hughes is accepted as the first and true inventor of the microphone, and discoverer of the electric properties of a "bad joint."

More important, in a public and commercial sense, than any of the foregoing inventions, was the appearance of the electric light as a public illuminator in the streets, and at the Universal Exposition of Paris. The leading mode of lighting there seen was the electric candle of M. Paul Jablockhoff, while at some of the railway stations M. Loutin's system was at work. The wide impulse given to electric lighting by the beautiful display in Paris was soon felt in England, where the Gaiety Theatre was lit by Loutin's system in the latter part of the summer. This introduction of the light into London was followed by the lighting of the Times printing and composing rooms, on M. Rapiéff's system.

The want of a practical method of subdividing the electric light was, however, felt to be a serious stumbling block to its general adoption. On the 4th of October, when public interest in the new illuminator was beginning to rise, Mr. Edison telegraphed to London and Paris that he had solved the problem of subdividing the electric light indefinitely; and such was the influence of the inventor's reputation, and the excited state of the financial atmosphere, that a panic in gas shares, from which they have not yet recovered, immediately ensued. The effect on invention in this country was also most marked, and the English Patent Office, for three months afterward was charged with patents for subdividing and generating the electric light. Mr. Edison has patented his plan in England, America, and other countries; and is understood to be busy perfecting it, and arranging for a public exhibition of it at Menlo Park at an early day. The details are not yet divulged; but it is said that an alloy of platinum-iridium is used as the incandescent light emitter. Grave doubts are reasonably entertained as to the economical success of his system for household purposes, and the gas shares have slowly crept back to a figure more reassuring to holders; but Mr. Edison is reported as being hopeful of his latest invention. Whether he succeed in ousting gaslight from houses and homes remains to be seen; but there can be no doubt that he has made important advances in adapting the electric light

for general use. It is certain, at least, that what with the machines of Gramme, Siemens, Brush, de Méritens, and others, and with the candles of Jablockhoff and Wilde, the arcs of Loutin, Rapiéff, and Wallace Farmer, the incandescent carbon lamp of Werdemann, and of Sawyer-Man, and the incandescent platinum of Edison, the electric light will ere long take the place of gas in streets, factories, warehouses, large halls, galleries, and in shops. There will thus be a permanent gain to the electrical profession as well as to the general public.

Before he engrossed himself with the electric light, Mr. Edison, with his accustomed activity, had invented the micro-tasimeter, in which the sensitiveness of the resistance of prepared carbon to pressure is made a means of measuring minute pressures and temperatures. The megaphone, an acoustical rather than an electrical instrument, is the result of his attempt to construct a sensitive ear-trumpet; but although extremely delicate, it is in its present form too clumsy to be serviceable to those afflicted with deafness. The sonorous voltammeter, a similar instrument to Bertin's detonating voltammeter, invented about the same time, is also a contribution from Mr. Edison, during 1878.

New forms of telephones, and telephone calls, and new forms of batteries, have been constructed. In submarine telegraphy the project for a cable from Aden to the Cape of Good Hope was revived during the past year, with the alternative of an overland line from Khartoum to Pretoria, as advocated by Mr. Seivewright; but no decided steps have been taken to carry out either the one or the other. Arrangements have, however, been made for duplicating the cable communication to Australia, *via* the East Indian Islands; and during the year the Eastern Telegraph Company extended their cable system, so as to include the newly acquired island of Cyprus. Duplicate lines were also laid by this company, and the Eastern Extension Company. Muirhead's duplex system was also applied to the Madras Penang section of the latter company, and to the French Atlantic Company. We have reported too that Mr. J. B. Stearns has succeeded in effecting the duplex balance, at Heart's Content, on one of the Anglo-American Atlantic Cables.

1878 has been a fatal year among electrical celebrities. While December of 1877 carried off the much respected A. Griff, the succeeding January removed Antoine Cesar Becquerel, the father of electro-chemistry, and discoverer of the electro-deposition of metals; and May was marked by the death of Prof. Henry, the venerable Nestor of American science, and discoverer of the self-induction of secondary currents in a close circuit. In April died William Orton, the enterprising President of the Western Union Telegraph Company, a man of whom telegraphists may well exclaim, "How are the mighty fallen." Nor should we forget a countryman of our own, whose humbler achievements have yet made his name a familiar one to English electricians—we mean the late Mr. William Hooper. —*The Telegraphic Journal.*

Some Canadian News from Q. Cumbers.

It was with extreme pleasure that I read "Alle's" excellent letter in your issue of December 15th lament the lack of Canadian news in THE OPERATOR. It is a lamentable fact that Canadian news is most conspicuous by its absence. And yet we have no one to blame but ourselves. There are numbers of operators in Canada with talent and ability sufficient to make valuable correspondents, and why we never hear from them passes my comprehension. I hope "Alle's" letter will be the means of awakening them to the error of their ways, and securing proper representation for Canada.

There has been considerable excitement lately among Grand Trunk Railway operators over the arrest and trial of Operator Hay, of Carleton Station. He was charged with being instrumental in causing a serious collision in which a brakeman was fatally injured, but was acquitted by a coroner's jury. It came out in evidence that a night operator's salary, on the G. T. Railway is \$1.15 per night of twelve hours, some getting only a dollar. In reference to this the *Mail*, a leading Dominion paper, strongly censures the falsely economical policy pursued by the G. T. Railway in their telegraph department, and questions the possibility of their getting reliable operators to work for such starvation wages. And we all rise on our feet and shout hear, heart! for it is a well-known fact that, as a general thing, the name of Grand Trunk night operator is a synonym for a plug of low degree.

A short time ago the Montreal and Dominion Telegraph Companies entered into an agreement

whereby their receipts were to be pooled, a large number of offices closed, and expenses generally reduced. Then the disconsolate operator sadly fished his last year's ulster from its obscurity and anxiously perused Vennor's weather predictions to ascertain what kind of weather might be expected for a protracted tour on foot. But now the arrangement has fallen through, and no change will take place, and the festive operator contemptuously kicks the discarded ulster into the cellar, and consigns Vennor and his predictions to a place where weather prophecies are unnecessary, owing to the unvarying uniformity of the climate.

I would consider myself indebted for life to any electrician who would publicly and positively state whether telegraphy comes easier to a man possessing a good ear for music, than to one who does not. I am continually being asked this question, and feel myself lowered in the estimation of my fellowmen by my inability to answer it. It is an almost every day occurrence to be button-holed by some musical ignoramus, and confidentially asked if I don't consider that he would make a good operator because he plays a little on the accordion. I don't know how my fellow-martyrs evade this question, but I generally compromise by quoting two examples—one of a first-class operator who never knew B flat from a double-barrelled gun, and the other of a man who played the Skidmore Guards on eleven different instruments, and couldn't make an H after a year's practice.

Last week a verdant looking individual entered our sanctuary and nervously inquired if we had a vacancy for a student, at the same time asking me to write my answer, as he was very deaf. I was too much shattered to reply, but Rodney undertook to refer him to a notorious plug factory, where—he graciously informed him—he would be turned out a perfect operator six months from date, with a certificate of proficiency, a chromo of the latest pattern, and a recommendation which would insure him a first-class situation on the responsible end of a snow-shovel. Another candidate for the lunatic asylum wended his way up to our counter a few days ago, and with a fiendish expression on his features, asked why the average King Street, Toronto, swell was like an operator. I desperately clutched a check-book, while Rodney reached for the ink-bottle, as we gave it up. "Because," was his grinning reply, "he is a wiry, dashing fellow; his business is flashy, and all done on tick, and"—

He continued to dodge the ink-bottles, but the check-book shaved his left ear close to his head, and Patsy's two dogs escorted him outside the town limits.

Q. CUMBERS.

Swallowing Oysters Alive.

The "Great American Traveler," Bogardus, is accredited with having played an unusually good practical joke years ago on a green countryman whom he met in an oyster saloon in one of the western cities where he was temporarily receiving night report for the Western Union. Some deny that Bogardus was the operator who figured in the affair, and affirm that it was another old timer equally well known. However that may be, the story is too good to lose. It appears, as the story goes, that at a late hour one night Bogardus left the office to indulge in an oyster stew. While he was there the door of the saloon was thrust open, and in stalked a hero from the Sucker State. He was quite six feet high, spare, somewhat stooped, with a hungry, anxious countenance, and his hands pushed clear down to the bottom of his trousers pockets. His outer covering was hard to define; but after surveying it minutely, Bogardus came to the conclusion that the suit had been made in the countryman's boyhood, of a dingy, yellow linsey-woolsey, and that, having sprouted up with astonishing rapidity, he had been forced to piece it out with all colors, in order to keep pace with his body. In spite of his exertions, however, he had fallen in arrears about a foot of the necessary length, and, consequently, stuck that far through his inexpressibles. His crop of hair was surmounted by the funniest little sealskin cap imaginable. After taking a position, he indulged in a long stare at the man opening the bivalves, and slowly ejaculated, "Isters?"

"Yes, sir," responded the attendant, "and fine ones they are, too."

"Well, I've hearn tell of isters afore," says he, "but this is the first time I've seed 'em, and perhaps I'll know what thar made of afore I git out of town."

Having expressed this desperate intention, he cautiously approached a plate, and scrutinized the uncased shell fish with a gravity and interest that

would have done honor to the most illustrious searcher into the hidden mysteries of nature. At length he began to soliloquize on the difficulty of getting them out, and how queer they looked when out.

"I never seed any thin' hold on so—'takes an a-mazin' site of sawin', hoss, to get 'em out, and aint they smooth and slip'ry when they does come? Smooth as an eel! I've a good mind to give that feller lodgins, just to realize the effects, as Uncle Jess used to say about speklation."

"Well, sir," was the reply, "down with two bits and you can have a dozen."

"Two bits!" exclaimed the Sucker; "now come, that's stickin' it on right strong, hoss, for isters. A dozen on 'em aint nothin' to a chicken, and there's no gittin' more'n a picayune for them. I've only realized forty-five picayunes on my first ventur in your town. I'll tell you what, I'll gin you two chickens for a dozen, if you'll conclude to deal."

At this point Bogardus winked to the attendant to shell out, and the offer was accepted.

"Never mind," repeated the Sucker, "all fair—two chickens for a dozen—you're witness, mister," turning to Bogardus; "none of your tricks," for I've hearn tell that your city fellers are mity slip'ry coons."

The bargain being fairly understood, the Sucker squared himself for the onset—deliberately put off his seal skin, tucked up his sleeve, and, fork in hand, awaited the appearance of No. 1. It came—he saw—and quickly it was bolted! A moment's dreadful pause ensued. Bogardus dropped his knife and fork with a look of mingled amazement and horror—something akin to Shakspeare's Hamlet on seeing his father's ghost, while he burst into the exclamation:

"Swallowed alive, as I'm a Christian."

The Sucker here had opened his mouth with pleasure a moment before, but now it stood open. Fear—a horrid dread of he didn't know what—a consciousness that all wasn't right, and ignorance of the extent of the wrong—the uncertainty of that moment was terrible. Urged to desperation he faltered out:

"What on airth's the row?"

"Did you swallow it alive?" inquired Bogardus.

"I swallowed it just as he gin it to me!" shouted the Sucker.

"You're a dead man!" exclaimed his anxious friend; "the creature is alive, and will eat right through you," added he, in a most hopeless tone.

"Get a pizen pump and pump it out!" screamed the Sucker, in a frenzy, his eyes fairly starting from their sockets. "Oh, gracious!—what'll I do? It's got hold of my innards already, and I'm dead as a chicken! Do somethin' for me, do—don't let the infernal sea-toad eat me afore your eyes."

"Why don't you put some of this on it?" inquired Bogardus, pointing to a bottle of strong pepper-sauce.

The hint was enough; the Sucker, upon the instant, seized the bottle, and, desperately wrenching out the cork, swallowed half the contents at a draught. He fairly squealed from its effects, and gasped, and blowed, and pitched, and twisted, as if it were coursing through him with electric effect, while at the same time his eyes ran a stream of tears. At length, becoming a little composed, Bogardus approached, almost bursting with suppressed laughter, and inquired:

"How are you now, old fellow?—did you kill it?"

"Well, I did, hoss—ugh-ugh o-o-o! Oh, my innards! If that ister critter's dying agonies didn't stir a ruction in me equal to a small airtquake, then 'tain't no use sayin' it—it squirmed like a serpent when that killing stuff touched it; but"—and here, with a countenance made up of suppressed agony and present determination, he paused as if to give force to his words, and slowly and deliberately remarked: "if you get too chickens from me for that live animal I'm a nigger!" and seizing his seal skin he vanished.

The shout of laughter, and the contortions of the company at this finale, would have made a spectator believe they had all been "swallowing oysters alive."

Is it not reasonable to suppose that the painful messages come from Aiken, S.C.; the depraved from Cin-cin nati, Ohio; the saucy from Worcester-shire, Mass.; the religious from Providence, R.I.; the musical from Sing Sing, N.Y.; the wealthy from Richmond, Va.; the free from Liberty, Pa.; and the un-felone from Cats-kill, N.Y.? When the ladies read this at home, they may thoughtlessly exclaim, O-ma-ha cute he is, to be sure.

Questioning the Operator.

It is sometimes said that correspondence by telegraph ought to be as sacred and as fully exempt from examination and disclosure as are letters by mail. There is as good reason to say that it cannot claim, in the present condition of law, any more extreme protection. The freedom and security accorded to letters in the mails amount only to this: that they shall not be stopped on the way; transmission to the address shall not be hindered; there shall be no censorship of the mails, no opening and examining of letters on suspicion, instead of delivering them. But if, after letters have been delivered, their contents become material in an investigation or suit, no rule of law prevents their being called for and their production enforced, merely because they are private letters. If what is in a letter is not pertinent, doubtless the courts would refuse to take trouble to compel an exhibition. But a subpoena runs to whoever has in charge private letters, which have become material to a judicial inquiry, to compel him to bring them forward; or, in lack of the original, any copy which may have been made before or after sending can be demanded, and any person can be asked his memory of its contents. There is no privilege of letters as such; only of carriage by mail.

Telegraphing has been in use long enough now to bring forth several decisions on the production of telegrams, and the course of judicial decision undoubtedly is, and such is the tenor of legislation on the subject, that dispatches have no privilege of secrecy beyond that accorded to letters. Probably the comparison has not been made in terms. But the view enforced in the courts is the same. The operator receives a dispatch under a high official duty to transmit it, and the company is liable in damages for his neglect or delay. His duty is not liable to be interfered with by any censorship, nor can he lawfully disclose his suspicions of improper matter to the authorities, or promote any investigation of the sender's motives. It has been held that a company cannot justify a refusal of their operator to transmit a message, which is not indecent or unlawful in terms, by proof that the purposes of the sender were in violation of law. But after a message has been transmitted, its whole history is open, so the courts consider, to judicial inquiry. Either the sender, or the operator, or the recipient, may be questioned as witnesses, and whoever has the original or a copy may be required to produce it; just as the writer of a letter, or his clerk who copied it, or the receiver, may be called on for like information.

An Atlantic Cable Company was chartered by Act of Parliament, with a provision in its charter that every operator should take an oath that he would not divulge any message, and that any one who should violate this oath should be punished by fine and imprisonment. An operator was subpoenaed, in a Newfoundland court, and refused to answer because of his oath; but the court held that there was no privilege when the person was called upon to testify in a judicial inquiry. And such is the gist of a number of decisions in the States and in England. We believe all courts concur in sustaining the doctrine that telegrams are not to be deemed any more confidential than other communications. They are to be transmitted promptly, and free of censorship; and after transmission is completed, whoever has them, or a knowledge of them, is liable to be called upon, as a witness, for the production or disclosure of whatever a lawful tribunal may see to be material to a cause.—N. Y. Tribune

Telephones in Submarine Diving.

The telephone is to be made use of by the Department of Docks of this city hereafter in submarine diving. In dredging for the foundations of piers the Department has found it necessary to employ divers to examine the bed of the river, and there has been felt a need for some means of communication between the divers and the men on the dredges. Charles W. Raymond, one of the engineers of the Department, began some experiments with the telephone recently, and his work has led to the adoption of submarine telephones by the Department. Edison's duplex telephone is used. A battery, connected with one instrument, is placed on the dredge, and insulated wires run to a second telephone in the helmet of the diver. This is so arranged that the diver can apply either his mouth or his ear to the speaking cups by turning his head. Thus he can converse with ease while at work on the bottom of the river. This application of the telephone, it is thought, will not only extend the sale of the instrument, but will prove a most important aid to submarine diving.

An Indignant Telegraph College Man.

The New York *Weekly Sun* of January 8th, under the head of "Answers to Correspondents," published the following:

G. W. Ebert, *Dan's N. J.*—"J. D. Brown, manager of the Western Telegraph Institute at Sedalia, Mo., says he will teach young men the art of telegraphy for \$30, in from four to six months, and find the pupil a situation. Can he do it?" An experienced operator, and an old chum of Thomas A. Edison, says it is impossible to learn in so short a time. Many experts are unemployed, and persons sending such circulars cannot obtain situations. You had better buy books, and acquire the art by study.

Edison's claim referred to is Mr. George F., familiarly known as "Fattie," Stewart, of the Associated Press.

The same issue also contained this answer:

Edward D. Wentworth, *Dan's N. H.*—"Is the Boston Telegraph Institute trustworthy, can any one learn telegraphy there, and can the Institute qualify a competent person for an operator in three months?" You cannot learn telegraphy in three months at any institute. "THE OPERATOR," a paper published in your city, if I understand it aright, says you cannot learn at an institute. Is this so?" THE OPERATOR is right.

Referring to the above, the J. D. Brown mentioned, who, by the way, is an old subscriber of THE OPERATOR—one redeeming trait in his character—writes a long letter to the *Sun* in his own defense. This letter has been forwarded to us, with permission to publish, if so inclined. The following extract from the epistle may be of interest to OPERATOR readers:

Editor Weekly Sun.—Sir: In the *Weekly Sun* of January 8th I notice that some one mentions that THE OPERATOR, a paper published in your city, says that telegraphy cannot be learned at a telegraph institute, and the statement is verified by you. When it is taken into account that this said paper, THE OPERATOR, is published in the interest of an association of operators, that a strong effort is being made to form the "Telegraphers' Protective Association," the veracity of such a statement should be doubted. One of the principal clauses that this said Association proposes to embody in its Constitution is that "each member will individually and jointly discountenance and discourage any and every one from entering any telegraph school or office for the purpose of learning telegraphy, or in any manner to enter their ranks." Especially are they to wage war upon telegraph schools. Their reasons for this are obvious. "Neatly every operator in the country does or will belong to this organization."

A person must have *main line* practice before he can become competent. After a student has remained in our school-room a certain length of time, we expect him to go out on a regular telegraph line for a few weeks, and receive *main line practice* before he is qualified to take charge of an office.

Yours respectfully, J. D. Brown, Manager.
[SEDALIA, MO., Jan. 13.]

Students and the U. P. Railroad.

By publishing the attached circular perhaps some of our railroad friends may see the wisdom of the act and profit by the example. Train dispatchers, as a measure of safety, should urge the adoption of something similar, only without the clause relative to "authorized students." This should be erased; for, if a student is authorized, it does not follow that his authority will prevent him from interfering with the lines, and he is liable to prove even a worse nuisance on account of his permission to practice. There is scarcely a train dispatcher in the country but what has sat on the "ragged edge" of suspense, his heart sick with fear, and his brain flooded with visions of a collision, while some idiotic, and, perhaps, "authorized" student, blithely pounds away at his alphabet, oblivious of all attempts on the part of the desperate dispatcher to break him. It is all well enough so long as nothing happens; but suppose that in consequence a train gets away from a station before the "orders" could be received there for it, and it rushes along and meets another on the same track. The newspapers would all wonder at the foolish perversity of the train dispatcher in attempting the oft-tried problem of "passing on the same track." They would bound him as long as his name lived. No excuse of his could prevent it; and who would be to blame—the student, the man who authorized him, or the dispatcher who couldn't help himself? I also think the penalty for violation of the circular should have been made *immediate dismissal*. Suspension is not severe enough for willful

violation of any rule. If rules are a necessity, it is also a necessity that they be obeyed. RANDALL.

UNION PACIFIC RAILROAD COMPANY,
TELEGRAPH DEPARTMENT,
SUPERINTENDENT'S OFFICE,
OMAHA, NEB., January 9th, 1879.

ALL OPERATORS: Your attention is called to Rule 17, viz: "No students will be allowed to practice on line or be taken into offices without permission in writing from the Superintendent of Telegraph." This rule has been and is being violated, in some cases to the great annoyance and hindrance of business. Any operator now acting in violation of this order will at once put a stop to it, and in future be governed strictly by the rule. The Superintendent of Telegraph will keep a record of the names and location of any authorized students; will enroll the same, and will not recognize applications from any others. More trouble arises from students than any other cause, and any future violation of this rule will be punished by suspension or discharge.

Approved, J. J. DICKEY, Sup't. Tel.
J. T. CLARK, Assist. Sup't.

Words of Encouragement.

From time to time we receive many pleasant letters from readers, and although few of them are published all are none the less appreciated. We today depart from our usual custom enough to give below extracts from a few letters recently received:

"Inclosed please find \$1.25. Send paper along for 1879. Can't get along without it." W. B. G., Cambridge, O.

"Give us the paper another year. Everything goes wrong without it. Here's \$1.25." J. L. B., Bradford, Pa.

I have noticed its great improvement since its first appearance and bid you "God speed." F. M. D., Burlington, Vt.

"I find THE OPERATOR a very spicy little paper, and would not do without it for many times the amount of subscription." J. E. H., Stamford, Ill.

"Your bright little paper comes to cheer many a lonely hour, and I feel I cannot well do without it. I therefore inclose \$1.25 for another year." Miss M. L., Loda, Ill.

"Inclosed please find \$1.25 for renewal of my subscription. The 'first subscriber in Vermont' has read with pleasure every number of THE OPERATOR, and certainly will not forsake it now."

"Inclosed \$1.25 for THE OPERATOR another year. I can't afford to let it go, if times are hard. Some one sent me the first number, and I immediately forwarded my subscription, and have taken the paper ever since." W. W. T., Gilman, Ill.

"I send you \$1.25 for which please send me the paper another year. In all the world I feel I have at least two true friends—THE OPERATOR and its Publisher. Hoping they may 'live long and prosper and their shadows never grow less,' I remain, J. B. F., Cypress City, Texas."

A Constitutional Walk.

Few operators walk as much in winter as they might, yet it is precisely at that season that people of close sedentary habits should walk. How grateful the crisp air is to the lungs! How clear and sweet it is to the nostrils! How it inspires and sustains one in a swinging gait of four or five miles an hour! How the cheeks glow, and the eyes shine, and the muscles tingle with delightful vigor, after such a walk through the winter sunshine! A chair-ride is not half so good, for it robs the trip of the necessary exercise. Try it, you who seek health and strength. Winter walking, as a "nervine," is a million times better than medicine, and for improving the complexion it is worth a whole harbor full of lotions and washes. It will put an edge on appetite that you can't buy at the doctor's, and in promoting digestion is better than a corner drug-store's entire stock of bitters and pills. If you have never tried it, take a walk. Keep your mouth closed, your shoulders well thrown back, your head up, and remember that your legs—and especially your hips—were given you to walk with. Some people walk with their knees, bodies, and shoulders—and no wonder they don't like it. We don't like to see them. There is an art in walking as in other things. If you don't believe it, observe the motion of some shapely woman who knows how to move, or study the gait of a man who has some spring and litheness in him. It is never too late to learn how to walk by walking.

Dashes Here and There.

Sound money—A telegrapher's salary.

Be active, be active; find something to do, If no more than the rushing of a "student" or two.

READ advertisement of Telegraphers' Visiting Cards on page 13.

There is always a good Raleigh-ing point to be found in North Carolina.

A correspondent writes that it is so long since the pay car has been around his way that he feels thankful for even the change in the weather.

Breathes there a man with soul so dead

That never to a plug bath said:

"Get off this wire! Now that's enough!

Jerry Borst himself couldn't read such stuff?"

If such there be, go mark him well—

That man is lying, sure as 2 and 2 make 4.

Among the recent inventions for driving men mad is a telegraphic instrument by which messages in the handwriting of the author can be sent. The average man's handwriting looks like a clothes-horse kicked by a mule, whereas the telegraph operator's writing is occasionally readable.—*Milwaukee Sentinel*.

Edison's electric light has been patented in Brazil and other parts of South America, and the firm of Fabri & Chauncy have purchased the patent rights for South America. The total cost of his patents is said to be nearly \$20,000 thus far, and \$100,000 is to be spent on experiments. He expects to get six lights, each equal to a gas jet, from each horse-power of the new dynamo electric machines.

Whatever may happen to particular interests or individuals, there can be little doubt that 1879 promises to be a fortunate year for the American people. Many of the descriptions of prolonged depression from which they have been suffering are either ended or now passing away, and the principal troubles existing arise either from cases that plainly have their origin in old mistakes and misfortunes, or in new conditions of trade which combine healing influences with their hardships.—*Philadelphia Progress*.

The harbor of Bremen is illuminated by the electric light, to enable vessels to arrive and leave at full speed at night. Why could not every steamship be provided with apparatus for generating electricity, and thus make a clear path for itself across the ocean at night or in a fog? The motive power would cost nothing, as the light would only be required when the engines and the vessel were in motion. This would render such disasters as the sinking of the Pomerania, the Ville de Havre, &c., almost impossible. Let the passenger-carrying ocean steamers adopt this suggestion, which is hereby tendered free, and people will trust themselves with more confidence to the dangers of the deep.—*Detroit Free Press*.

TELEGRAPH COLLEGES.—To the Editor of the *Enquirer*.—Will you be kind enough to inform me if there is a school where young men are taught the telegraph business in Cincinnati, and whether or not the institution furnishes situations after learning. By answering as soon as possible, you will confer a favor upon

Yours, &c., JAMES McLAUGHLIN.

Diligent inquiry fails to find a practical telegraph operator who is a graduate of a telegraph college. Such colleges have no connection with a responsible telegraph company, and they are unable to carry out their promises of a situation, if they were willing to. Any telegraph operator can tell you the best way to learn the business.—*Cincinnati Enquirer*, Jan. 13.

We have received the latest issue of THE OPERATOR, a sixteen page journal devoted to telegraphy. It is filled with choice telegraphic literature and matters of interest to the profession, and presents a beautiful typographical appearance. This number contains an excellent poem by Werner, one of the best known writers in the telegraphic ranks, and a well-written essay by our own contributor, "Lester." We recommend it to all operators as a pleasant companion and a useful chronicler of professional events. The publisher has also compiled and issued several volumes of telegraphic literature, some of which we will notice at more length in a week or so.—*Rocky Mountain Sentinel*.

There is [probably nothing] so common of which so little is known, or about which there is so much curiosity as the newspaper. Men read it, abuse it, threaten to give it up, praise it, advertise their wants in it, write to it, search it to see if their letters are in it, call it hard names, pay for it year after year—and still to ninety-one out of a hundred of them its production is a complete mystery. To them it is a

business office, a newsboy, or a post office, who are simply carriers, and that is all. It is the exemplification of effect without cause—an impersonal institution with plenty of vitality, and sometimes even with genius; but it is always mysterious, even to those most intimately connected with it. The whole of its secrets are known to no single individual. Its personality is swallowed up in the editorial "we," into whose depths no man penetrates, and even the inquisition of the law never gets behind its innermost curtain.

Novel Application of Electricity.

A gentleman who has just returned to Milwaukee from a trip, tells of a new use that has been found for electricity that even beats the telephone or the phonograph. It is a device by which the colored sleeping car porter can be awakened at every station. It is well known that the normal condition of the colored person is to be asleep. The colored person goes to sleep on the slightest provocation. In the ordinary affairs of life this eccentricity can be overlooked and provided for, but the business of sleeping car porters has baffled scientists to devise a method of keeping them awake. A porter can be kept awake by constantly whistling, but this practice has a tendency to awaken passengers who do not desire to be awakened. The inventor has adapted electricity to this branch of railroading in such a manner that the colored person's usefulness is increased, at very little expense. It is desirable that the porter should be awake at each station where the sleeper stops, in order to snatch the small baggage of those who get aboard, and throw it under the seats.

A wire runs from the engine under the cars, and is connected with an electric disc in the cushion of the hind seat of the sleeper, where the colored man is apt to congregate, and at the same moment that the engineer rings the bell on approaching a station, he touches the thingumbob attached to the wire. Suppose the porter to be seated in his accustomed place, peacefully dreaming the happy hours away. His head is thrown back, his eyelids are in repose, his mouth is open like an approach to a tunnel. He is sitting on the electric disc. The hand of the engineer playfully touches the cornucopia, the lightning flashes back to the sleeper, a charge of electricity goes meandering up the spinal column of the African, he is raised toward the roof of the car, and when he comes down he is wide awake and ready for business. There is no other thing on earth that will fetch a porter except electricity. A conductor's boot has been known to do it, but it takes several applications, and the result is not quite as satisfactory. Railroad companies that have adopted the telegraph awakener in the South are receiving the encomiums of the people. This is, indeed, an age of improvement.—*Pittsburg Dispatch*.

Echoes from 197.

Harry Bennett is in San Francisco wrestling with Coke and Blackstone.

George Warren has left the cable wires, and is now on Boston. Other minor clauges have been effected.

Ladies, be consoled. You may not often have an escort close at hand, but at any rate there is always an arm-at-ure command.

Mr. Brower, our mechanical Edison, has evolved from his ever busy brain a new shade intended to protect the eyes from the flaring gas light.

Ed. Anson who left here January 1st, for his home at Lockport, arrived there a week behind time, having been snowbound. He returns shortly.

Billy Blanchard, our night printer, is as ready as ever with joke or pun. The vicinity of his table is a favorite locality for the humorists during a lull in business.

J. W. English, of 791 Broadway office, has been honored with the title of superintendent of 44 city, and the title has received very much additional luster thereby.

H. McGonegal, of 819 Sixth Avenue office, now calls upon the managers of other offices direct, without the intervention of the Superintendent, for an explanation when his calls are not answered promptly, especially after 5 p. m. Of this more anon.

James Orton, age nineteen, a law student, and son of the late president of the Western Union Telegraph Company, was reported missing from his mother's house, No. 413 West Twenty-third Street, on Saturday, January 18th, but turned up all right next day.

On Friday, January 17, Messrs. C. F. Hutchinson and C. H. Robinson of the cable department, exchanged 965 cables with Messrs. Cleveland and Charley Hoyt of North Sydney, between 8 A. M. and 5:30 P. M. Among the messages were many long press dispatches. Who can beat this?

The following officers and directors of the American Speaking Telephone Company were elected January 16th: President, George Walker; Vice-president, Norvin Green; directors, George Walker, Norvin Green, Tracy R. Edison, Elisha Gray, Samuel T. White, H. McK. Twombly, E. W. Andrews, S. F. Barger, James H. Banker, Anson Stager, and George B. Prescott.

Pacific Coast Notes.

A meeting of district superintendents, and other officials of the W. U. Co., was held in San Francisco during the last days of December. On the 1st of January the following changes were made: F. H. Lamb, who has for some years been district superintendent of all offices north of Cal., with his headquarters at Portland, Ogn., was placed in charge of a new district, which includes San Francisco and Sacramento. His office will probably be located at the latter place. D. F. Leahy, who has been manager of the Portland office, succeeds Mr. Lamb as superintendent of that district, and Jo Thatcher, of San Francisco office, has been sent to Portland as manager. This is an appointment from the ranks, and it is so seldom that operators are promoted from this office, that the event is worthy of notice. It has heretofore been customary to make importations to fill official positions in the service, although men qualified in every way to give satisfaction were to be found among the force here. It is to be hoped that this new departure marks the beginning of a different policy in this respect in future. Mr. F. B. Rae, who has been filling the position of electrician for the company on this coast, has been sent to Sacramento as chief operator. He succeeds Mr. Dozier, who has been removed, the supposed cause being the fact that he was guilty of perjury in the Williams-Allen case, as his testimony there, given in favor of the defendant, did not agree with the facts as testified to by Mr. Gamble. Contrary to general expectation, and the universal wish of nearly all who knew him personally or by reputation, Mr. Allen still holds his position as manager of the Sacramento office. It is hinted that he possesses a certain power over a high official here, which serves to keep him in the place for a time, at least. Business has materially decreased here lately, but will no doubt revive in a short time, especially if the price of mining stocks goes up again.

Carbondale Notes.

R. E. White is considered to be one of the finest operators in the State. Dispatcher Mace, of Green Ridge, is now being assisted by his brother, who handles the key gracefully. Joseph L. Chapman, D. and H. dispatcher, is now pleasantly ensconced in his new and convenient office in the Carbondale depot. Charles Timmons, D. and H. repairer, a resident of this city, is very popular along the line. M. M. Heally, formerly operator for the D. and H. Co. at Nineveh, N. Y., has been transferred to the general office, Albany, N. Y. Charles S. Taft, of Port Jervis, son of N. Taft, one of the oldest engineers on the Erie Railway, is now stationed at Jefferson Junction. Lewis Bishop, manager of the Western Union Telegraph office at Honesdale, Pa., has joined the National Guards of Pennsylvania. He is called the "warrior bold." C. R. Manville, son of Superintendent Manville, a fine operator, leaves this week for Troy Polytechnical Institute to complete his studies. W. A. Castle, late ticket agent and operator for the Erie Company at Passaic, N. J., has been waiting lightning at Starrucca, on the Jefferson branch of the Erie Road, for a few days past. A. V. Gerbig, agent and operator at Archbald, on the D. and H. Railroad, had the misfortune to break his shoulder-blade by slipping upon the icy pavement near his office some days since. Of all the men that ever we knew Mr. Barnes, of Mill Creek, is the best—we mean when speaking of telegraphy. George B. Swift, of Port Jervis, well known in New York, has accepted a position as dispatcher for the Erie Company in this city. He is successor to George W. Conklin. The latter was obliged to ask for a vacation because of poor health. Mr. Conklin is a brother of D. H. Conklin, Superintendent of Western Roads, and known to the telegraphic fraternity in general.

Canadian Items.

Since I last wrote, telegraph matters in Canada have been rather quiet. A day or two ago, however, a great decline took place in the shares of the Montreal Telegraph Company. Two or three months ago the price stood at 123, but steadily declined until the 24th inst., when it touched 96, sales being made at and below that figure. A few years ago the price stood about 250. Dominion Telegraph stock has been steady, with sellers at 80—no buyers. The Direct Cable being broken, thus preventing the Dominion Co. from taking cable messages, the Montreal Co. is making a great effort to secure that business. Advertisements have been inserted in nearly every paper in Canada, claiming that, connecting as they do with the Anglo Co., there is no chance for interruption. They ignore the fact that a year or two ago the Direct Cable was for some days the only one working between the two countries. Professor Bell has applied to our courts for an injunction against the Montreal Telegraph Company restraining them from using the different Telephones controlled by the Western Union. I understand that the case will be argued some time in the spring. About eighty Bell Telephones are now being used on private lines in Toronto. A few Edison Transmitters have also been put up. A District Telephone Company has been organized, and will be at work soon. The Toronto Telegraph Co., a small district organization, has succumbed to the hard times, and the property will likely be sold. In my next I may tell you about some legislation affecting cable companies which is to be brought up at the coming session of Parliament.

Electrical Society of the Ohio Valley.

The Electrical Society of the Ohio Valley held a very pleasant soiree January 22d, which was attended by several lady and gentlemen invited guests. A song was sung by a double quartette, composed of the following gentlemen: Messrs. C. E. Jones, J. D. Walker, E. G. Folger, J. C. Mattoon, C. H. Williams, S. W. Higdon, H. G. Getchell, C. W. Fisher; Prof. E. W. Starbird, leader. This was followed by the recitation of an original poem by Mr. J. H. Riddick. It contained a variety of very amusing local hits, and was the provocation of great hilarity.

He proved himself a very poet,
And does not care how many know it;
Besides, a modern style he's got,
Which Shakespeare, Burns or Moore had not.

Prof. Levi Brown, assisted by Master Johnnie Shaw, delighted the audience by treating them to a musical feast replete with special features. A good gallery of stereopticon views was exhibited, and proved very entertaining. J. C. Mattoon officiating as lecturer, and W. C. Ross manipulating the scenes. About fifty of the pictures were drawn by Mr. O. J. Waddell, an operator. A telegraph concert was given, the singers being stationed at Indianapolis. Prof. Brown performed upon the banjo for the benefit of the Indianapolis party, and vocal solos and duets were exchanged between the two points. The Electrical Society has been in existence about a year, and is rapidly increasing in membership.

By reference to our advertising columns it will be noticed that the well-known firm of Partrick & Carter, manufacturers of telegraph and electrical instruments and supplies, to accommodate their steadily-increasing business, have removed from their old and long-established salesrooms at No. 38 South Fourth Street, Philadelphia, to more extensive quarters at No. 114 South Second Street, same city. This firm are well known and deserving of all the success that attends them. Their manufactures proclaim them to be at the head of their profession as electricians and mechanics. Having, since January 1st, 1879, to meet the wants of large as well as small corporations, railroads and others, combined the railway, steamship, and mining supply business with their telegraph trade, Partrick & Carter are now ready to meet the demands of all in their line. Their telegraph and electrical goods are world-renowned for excellence of workmanship, beauty of design, and infallibility in operation. We wish them every prosperity in their new establishment, and can vouch for the satisfaction of all orders submitted to them. May success attend their never-tiring energy, skill, and perseverance.

PERSONALS.

Mr. J. W. Jordon, of Burnsville, Miss., was married January 9th to Miss Victoria A. Bradberry.

The Austin, Nev., *Reveille* says that there is a message at the Western Union office in that city for Hank Cowan.

The hours of Mr. Farley, operator, Baltimore, were last issue given as from 8 A.M. to 8 P.M. They should have been 8 A.M. to 5 P.M.

The telegraph operator at Holly, Mich., stepped out to get a bucket of coal the other night, and while he was gone some one stepped in and stole his stove.

The practice of addressing each other by their surname, common among telegraphers, does not tend to elevate. A little more ceremony in this respect would be an improvement.

The telegraphers of the Eastern Division of the Erie Railway will give a reception and ball at Paterson, N. J., on February 5th, which promises to be a very enjoyable affair.

Mr. W. H. Harrington, an old time operator, and late with the W. U. Co. at Salt Lake City, Utah, has removed to Chicago, and engaged with Mr. Geo. H. Bliss in the electric pen business, as phonographic correspondent and reporter.

Frank Gessner is hunting all through the Philadelphia directories for a nice name for his boy. Whatever time he can spare from the office is devoted to dangleing that boy on his knee, and he says he is going to be an operator, too.

Jay Twitchell, telegraph operator at the Black River depot, has been on duty two days and two nights without any let-up.—*Waterdown Times*.

Poor fellow! Do, somebody, send him a little let-up in a snow-proof package.

Mr. James T. Russell, who is the popular agent and operator of the D., L. & W. R. R. Co. at Orange, N. J., on account of his urbanity and politeness, is a great favorite with the many people who patronize this excellent line. We know "Jim" of old, and no better man for the position could be found.—*New York Hotel Exchange*.

Mr. T. P. Robertson, for eight years operator W. U. Tel. Co., and agent A., M. & O. R. R., at Farmville, Va., has resigned to engage in other business at same place, and his assistant, Mr. John R. Martin, has been promoted to fill the vacancy. Mr. T. E. Atkinson, agent from Church Roads, V. A., A. M. & O. R. R., has been appointed Mr. Martin's successor.

Mr. Edward Teller, agent and operator for the D. and H. C. Co. at Center Village, N. Y., was married on Sunday afternoon, January 12th, to Miss Frankie Brainard, of Binghamton. The ceremony took place at the Presbyterian parsonage, Nineveh, N. Y. It was not a pretentious affair, but one of those pleasing nuptial occasions to which only the most intimate friends of the bride and groom are bidden.

Mrs. Nettie Parker, the esteemed manager and operator of the Western Union telegraph office here for the last four years, exchanges places with Miss Helen M. Stanley, of the Stonington office, an expert operator. Mrs. Parker left town last evening for Stonington. Miss Lovell remains as operator for the Atlantic and Pacific line, both offices being located at the Providence and Worcester depot.—*Worcester (R. I.) Reporter*.

C. Sr. L., & N. O. R. R.—The following are among the latest changes on this line: J. W. Melton transferred from nights, Hazlehurst, Miss., to freight depot, New Orleans, filling the vacancy caused by the resignation of Jas. L. O'Connor, who has accepted a position in the fire alarm office at that place. Jim has the best wishes of his many friends for future success in his new capacity. H. B. Hoarn appointed nights, Hazlehurst, Miss., H. B. Melton days. John West, formerly assistant at Holly Springs, appointed days, Beauregard, Miss. J. W. St. Clair, "Old 73," still works off the business from the general office.

GREENVILLE, MICH.—Lucella Kingsley, the efficient operator at this point, has just been granted two weeks' leave of absence. Mr. C. W. Hatch, of Ionia, relieving her. O. H. Lincoln, of the A. & P. general office, Detroit, has been appointed superintendent's operator, D., L. & N. R. R., at Ionia, vice C. W. Hatch, who is now relieving operator. G. H. Hazelwood, of Grosse Isle, has taken the place of G. A. Thurbur, at Denmark, Thurbur being transferred to the new station of Elmira, C. George celebrated his promotion by getting married, and is doing well. Miss Lydia Jayne still holds down the chair at Portland, and is as fascinating as ever.

G Frank Jones, of the Philadelphia Local Telegraph Co., at Philadelphia, formerly of Kinston, S. C., has been rendered happy by a telegram from Washington informing him that "the Pension bill has passed." This means to him that sixty-five years' pension due to his father for services in the war of 1812, and for fourteen years' service at Fort Mifflin, amounting in all to \$21,900, is about to come into his hands. As Mr. Jones had given up this claim as far back as eleven years ago, he is naturally well pleased with the result, and, for that matter, so are we. As an operator he has been conscientious and industrious, and we only hope that his good fortune will not turn him from the straight path which he has hitherto so uniformly followed.

The telegraph messenger boys have been more and more interested in walking matches, and the cellar under their office has seen some warm contests. The championship has sifted down to Masters Toomey and Mills, and last night they had a 15-mile walk to settle the matter. Toomey tramped it in a little less than three hours, when Mills, who beat Toomey the other day, was a mile behind. They won't have a chance for another match, however, for in the excitement somebody broke two of Landlord Goodman's marble-top tables, stored in the cellar last night, and the course is now closed to them. But all parties are said to be satisfied that the modest Toomey is "the boss" walker among these quick-footed lads.—*Springfield (Mass.) Rep.*

CLEVELAND.—At the annual meeting of the Cleveland Electrical Society, January 21st, the following officers were elected for the coming year: E. P. Wright, President; H. L. Melton, Treasurer; C. W. Douglass, Recording Secretary; F. A. Stumm, Corresponding Secretary; N. A. Buell, Librarian. E. W. Morley was elected First Vice and C. F. Stumm Second Vice President, in lieu of T. J. Higgins and J. B. Shaw, resigned on account of inability to attend. Mr. O. M. Sayre, of W. U. night force, has lately committed matrimony. We have also to record the marriage of Mr. J. M. Cronenberg, of the day force, to Miss Emma Nichols, of this city. "Next." The veteran "left-hand pounder of brass," O. A. Gurley, is still among us, and has grown quite bald in the service, but his ability as an operator is A. 1. The night operators of the Cleveland and Pittsburgh Railroad have lately received an increase of five dollars per month to their salaries. The boys naturally express themselves as "feeling better." Mr. William A. Manning, of the night force, has within the past two weeks lost all of his children, three in number, by that much dreaded disease, "diphtheria." Mr. Manning has the heartfelt sympathy of all his associates. BRUTUS.

Everybody that has telegraphed has seen or heard of Jim Doody. His stories, always fresh and new, were ever entertaining. Of late years misfortune and sickness became his lot until Death claimed him as his own. The following little episode will illustrate the resources and wit of the Western operator, and, inasmuch as it relates to Mr. Doody, will be appreciated by all his former friends. Doody owed a small bill to a Cheyenne firm. He was a man always chary about owing anybody, but necessity compelled him to overlook this. Time passed, and poor Jim was called away, his death leaving a void in the telegraph ranks which it will be hard to fill. Meanwhile the dry goods firm lived and prospered. The head of the firm hearing that Doody was working in Ogden, sent him his bill. The latter was opened by one of the boys in the office (and one who by the way, is an aspirant for the Mormon Presidency). The following characteristic letter was sent in reply:

"GOLDEN, UTAH, Jan. 5, 1879.
"E. J. WAGSTER, Esq.—*Dear Sir*: Mr. J. P. Doody died of consumption Dec. 2d, and is now resting in Calvary Cemetery. He died in the true faith, and in the earnest hope of meeting his creditors in a better world. Yours in the Gospel,

"BISHOP SAM'L J. KELLEY.
"P.S.—We have not heard from him since. "Ky."

Mr. Wagner, it is stated, has no hopes of going to the Mormon, hence the account will be charged to profit and loss. NEMO.

ATLANTA, NEX., Jan. 21.

MILWAUKEE.—Billy Houghton, for a number of years manager of Sheboygan office, was in town during the early part of this month, subbing at "W. S." Upon the opening of the Wisconsin Legislature at Madison, Jan. 8th, Mr. C. E. Brosa, manager N. W. Tel. office at that place, was elected Chief Clerk of the Senate, without opposition. Mr. Brosa acted in that capacity toward the close of last year's session, and his unanimous re-election now is a very flattering proof of his efficiency and popu-

larity. F. E. Parker, Sr., presides over the destinies of "D. I." until after the Legislature adjourns. Ted Switz, the "Little Brunette" of the Plankinton House, spent fifteen days of the new year at the home of his parents, in Madison. It seems that nearly all the good boys live out in that burg. Chipman was granted an indefinite leave of absence on the 1st, owing to the very quiet state of business. After considerable experimenting, chief operator Kelsey has succeeded in working effectively the "Phantom" between here and St. Paul. Since the introduction of this instrument the duplex has been discarded. As an electrician, Mr. Kelsey has very few superiors. There are half-a-dozen ambitious young maidens in this city anxious to join the army of operators, and, for that purpose, waste hour after hour and day after day practising on the "pony line." Young ladies, take good advice, and improve your time in something better. The woods are full of operators now, and most of them half starving. Orson Wells is working nights, much to his joy. He has been longing for night work some time, "in his mind." Mr. M. F. Sheahan, of Silver Springs, called on the agent of THE OPERATOR a few days ago. Nicaud, Ramsey, Shape, and Hogan each had an "off" day this month. It is rumored that Joe Coleman, station agent at Hilbert, Wis., will soon lead to the altar one of Milwaukee's fair daughters. Miss Sner, of "S. Y.," calls at "Au." every day between 12 and 1 P. M., to settle up the business of her office. We wish that fellow who drives her in and out would let us take his place some day. Superintendent Haskins delivered a very entertaining lecture last Saturday evening before the Fortnightly Club, on "The Electric Light in our Homes."

MARRIAGES.

EGAN—CONKING.—January 1st, in Amboy, Ill., Mr. Joe W. Egan, the affable dispatcher of the Campaign section of the I. C. R. R., to Miss Amanda Conking, daughter of Conductor Conking, of Amboy.

WHEELER—O'BRIEN.—January 3d, at the residence of the bride's parents, A. M. Wheeler, operator M. C. R. R., Dowagiac, Mich., and Miss Hattie B. O'Brien, daughter of Rev. E. O'Brien, editor *Saturday Journal*, Eaton Rapids, Mich.

HAGEMAN—LITTICK.—January 8th, at Cedar Rapids, Iowa, by the Rev. W. Stuffer, F. B. Hageman, night train dispatcher, B., C., K. & N. R. R., to Miss Bertie Littick.

BIRTHS.

December 24th, to A. D. Fowler, manager W. U. Tel., Traer, Iowa, a daughter.

December 25th, to H. B. Gibbs, W. U. Tel., Traer Iowa, a son.

December 26th, to F. H. Playter, W. U. Tel., Morrison, Iowa, a daughter.

On Saturday, January 18th, at Philadelphia, to Frank Gessner, a son, weight 11 pounds.

January 7th, to Sidney R. and Jessie E. Crissey, a son—first son.

On January 21st, to J. Hess, Jr., night receiving clerk, Baltimore office, a son.

DEATHS.

GEE.—On Sunday, January 5th, at Liverpool, England, of consumption, Benjamin F. Gee, in the 26th year of his age.

Mr. Gee left the British Postal Telegraph service to come to America as an operator, with the original staff of the Direct Cable Company, and was for a long time in their New York office, but more recently in Boston, and was held in high esteem by superiors and colleagues. A year or more ago, returning from England—where he went to visit a dying father, and arrived only as the family was returning from the funeral—he was wrecked in the steamer Dakota off the coast of Wales, and then, owing to exposure, contracted the disease from which he never recovered. He left us only a few months ago to return to his mother, brother, and sister, who have the sympathy of his American friends in their sad bereavement.

KURTZ.—January 21st, at his residence in Baltimore, of pneumonia, Mr. Isaac B. Kurtz, aged 26 years.

Mr. Kurtz was for many years operator of the P., W. & B. R. R. at Canton Ferry, and was a general favorite. His loss will be long felt by his railroad and telegraph friends, of whom he had many. His remains were forwarded to Bermudian, near York, Pa., for interment.

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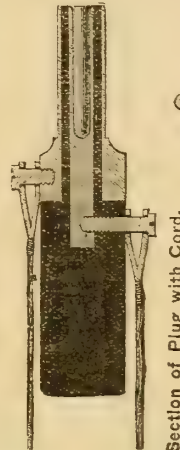
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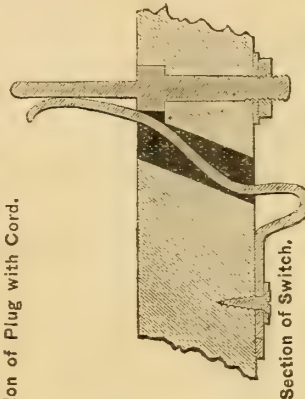
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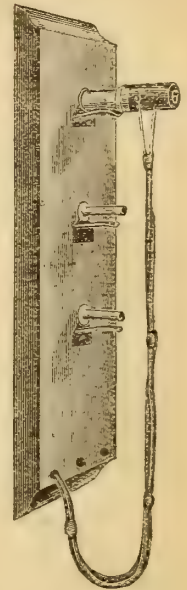
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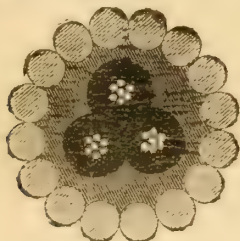
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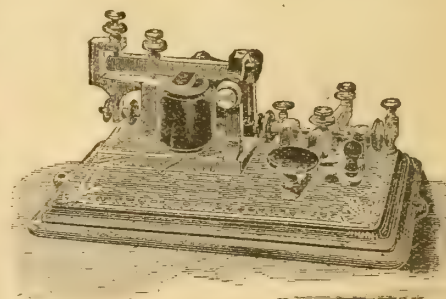
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No. 4

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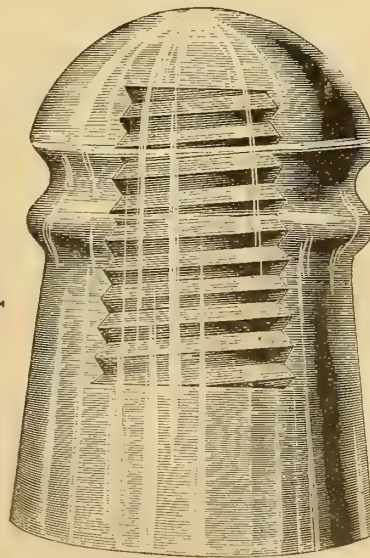
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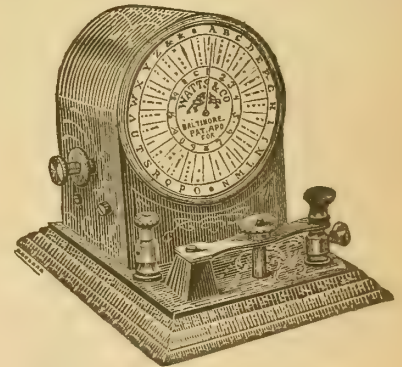
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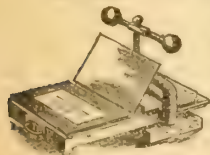
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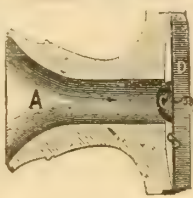
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9	"	"	330 "
10	"	"	268 "
11	"	"	216 "
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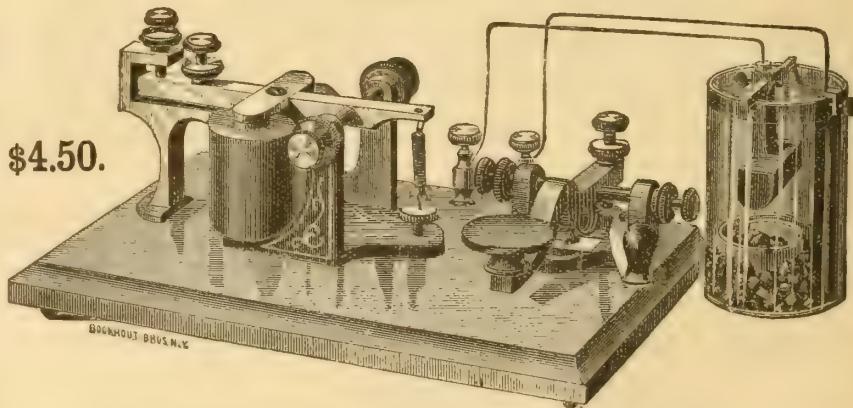
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THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

February 15th, 1879.

Volume X.

Whole No. 120.

Song.

Ring away, away,
With musical lay—
Wires with voices Æolian
Through the day.

Whispering harp of wires;
Ghostly lyres;
Ling'ring tones that meet and mingle—
Chiming choirs.

Missives tender and sweet,
O'er the fleet
Electrical wire, making some heart
Gladly beat.

Messages laden with ill
And chill;
Speed o'er metal line circuits;
Telling God's will.

Ring, ringing away,
Still away.
Mystical songs on the wires
Through the day. G. PALMER BARNES.

More Telegraphic Legislation in Congress.

An amendment to the Army bill was agreed upon by the Committee of the Whole, of the House of Representatives, February 4th, which if not stricken out in the House will have an important new influence on the future of the telegraph interests of this country. The amendment is in these words:

"And telegrams are authorized to be transmitted by railroad companies which may have telegraph lines, for the Government, and for the general public, at rates to be fixed by the Government according to the provisions of title sixty-five of the Revised Statutes."

This provision, in the briefest possible form, is in substance the Telegraph bill of Senator Jones, of Florida, now pending in the Senate, and which has already been explained in THE OPERATOR. Title 65 of the Revised Statutes, relating to the telegraph, contains among other things, the law of July, 1866, which really gives companies the power to put lines of telegraph over any portion of the public domain, and along all post and military roads. At the time of the passage of this act it was not believed that any existing companies could be interfered with, and the bill was not strongly opposed; but now that the United States Supreme Court, in a case coming up from Florida in a contest between an old telegraph company and a new line, has decided that the law is constitutional, and that any railroad company or telegraph company has a right to transact public business, the law has gained new importance. It was to give effect to this decision of the United States Supreme Court construing that statute that the bill of Senator Jones was introduced.

The telegraph companies until recently have paid little attention to the matter, but within two weeks representatives of the railroads on the one side have appeared in Washington, urging the passage of the Jones bill, and representatives of the telegraph companies have appeared on the other side to oppose it. The plan to defeat the bill in the Senate has been to move its recommitment to the committee which reported it, on the ground that it was not thoroughly understood when reported, and that it involved too great an interest to be voted upon without further investigation. That motion is now pending. Senator Jones will oppose it on the ground that it is an effort to kill the bill, but the above action of the House makes it certain that the subject will be brought directly before the Senate even if the Jones bill should be recommitment.

The amendment was adopted in the House without any outspoken opposition, although any considerable resistance must have defeated it, as it was

certainly in the nature of new legislation. The temporary opposition was withdrawn when it was asserted that the only purpose of the amendment was to make telegraphing cheaper, and to make lines which run side by side along the same railroad competing lines. The amendment was adopted in Committee of the Whole, and has yet to be voted on in the House when the bill is reported back, but the indications are that it is very sure to pass the House. The contest over it will then come up in the Senate, and if rejected there, subsequently in the conference committee. This amendment, with the existing laws of 1866, as construed by the Supreme Court, practically gives to railroads owning telegraph lines all the advantages which they could derive from the passage of the Jones bill. It is certain that the telegraph companies will realize the situation soon enough to make an earnest contest in the Senate. No more debate is probable in the House.

Dr. Norvin Green, President of the Western Union Telegraph Company, addressed the Senate Committee on Railroads on Thursday, February 13, in opposition to the Jones bill authorizing railroad companies to construct and maintain telegraph lines for commercial purposes, and to secure to the Government the use of the same.

Dr. Green stated that his counsel was present and would present the subject in a more general and analytical aspect than he was able to do. He would, however, be pleased to address a few remarks to the committee. He desired to say that in his judgment there was no need for this legislation, and that it would accomplish nothing in the direction of what it aimed at. If the aim was to establish a competition to the Western Union Telegraph Company, such competition would be in a bad direction. There are few railroads that have any lines of telegraph, he said, and fewer still that have any lines of poles. The Baltimore and Ohio, he supposed, controls more miles of wire than any other railroad company. The New York Central has not a foot of wire, and he could mention a dozen lines that have no wire. Nineteen out of every twenty of the railroads use the wires of the Western Union. Whether using their own telegraph lines or those of the Western Union, they get a proportion of the tolls received if they have a contract with the Western Union. Now these contracts have been sustained by the courts as being both legal and in consonance with public requirements, so that even in the case of the Baltimore and Ohio road the Western Union is able successfully to restrain them from opening up lines that are in direct competition. As he set out to say, the proposed bill would accomplish nothing, because any telegraph company (and a telegraph company can be organized in a day) might under existing statutes get all the benefits which this bill would give, and which the Western Union Company has.

President Green alluded to the cheap rates for Government telegraphing, and asked if it is becoming for the Government, now that the company has extended its lines into distant Territories, Arizona and Lower California, where there is little or no business, to assume authority to fix the whole of the company's rates, and make that investment valueless? He knew that the company he represented had been alluded to as a mammoth monopoly. He admitted that it is a strong corporation, but strong corporations have weak, poor stockholders. A very large number of the stockholders in the Western Union are widows and orphans, whose whole estate consists of the company's stock and bonds. The company is in no sense a monopoly. The country is open to anybody and everybody that wants to build telegraph lines. There are many who have tried it over and over again, but experience has demonstrated, what the logic of the case would show, that one telegraph company can do the business at lower rates than two or even three or four.

The Chairman—Your company, perhaps, can do it, but will it?

Dr. Green assumed that it would and does. It had already broken down an opposition backed by millionaires, and the only result had been to lower the rates.

Mr. Dorsey—That is rather a proof in favor of competition.

Dr. Green replied that a year after the competition had terminated, after the other companies had pooled, the average reduction was 4½ cents per message. During the last year the price averaged 38½ cents per message, as against \$1.48 ten years previously, when consolidation was first perfected. A reduction of rates has been steadily going on, and it is not true, he said, that the Western Union is increasing its charges.

The chairman asked what relations exist be-

tween what is known as the Associated Press and the Western Union Company.

Mr. Dorsey—And the public press.

The chairman—Of course.

Dr. Green—I am very much obliged for this question, and it gives me pleasure to answer it, for there is absolutely nothing to conceal in connection with those relations. Announcements have been made by us again and again that we would transmit the dispatches of any other associations of like service for a like price without favor of any kind. The Associated Press of New York was organized to collect the news of the world. They have their reporters everywhere, at home and abroad, and they pay a very large sum for cable telegrams. They are a company formed expressly to gather news, and the news so gathered is just as much their property as a private telegram or a private letter. They do not monopolize the news, but they collect it also for other associations, the New York State Press, the Missouri and the California State Press, the Western Press Association, and other associations. They transmit all their news to these associations over our wires. The Western Associated Press transmits through us about 7,000 words a day, and we deliver it to about fifty different papers in twenty-five or thirty different towns. We transmit it from New York to every one of these towns at one sending, and we get for it about 5½ cents per word. Now an opposition paper comes to us, and wishes us to transmit a special report for the same rate as we send one of these fifty, or else they must have that same report. Well, we say, we cannot give you that report, because it does not belong to us. If you want a special report, get up a combination, and then we will send it at the same rates. We have always made concessions to the outside papers where they are reasonable.

The Chairman—is there anything in your contract with the Associated Press that would prevent your sending the news of other combinations if you wished?

Dr. Green—Nothing whatever, except that we cannot afford to supply anybody at a tenth or fiftieth part of the price paid by our best customers. Of course we have propositions made to us that we should establish a news bureau, collect the news, and sell it to all the papers. Hitherto we have had no ownership or proprietorship in the news, but have simply transmitted it. We shrink from the proposition of a news bureau, because it is a dangerous power in the hands of any corporation. We could not undertake to make reports of political news for all the journals in the United States. Why, if we did we could elect anybody we pleased. You place that power in the hands of a telegraph company, and let them make two columns of news a day for every newspaper in the land, what show would anybody have against them?

The Chairman—Do you know what the arrangement is between the Associated Press and other papers?

Dr. Green—I can only say that I have some knowledge of it, but it is none of my business. For instance, the Western Associated Press and the Associated Press of New York, make arrangements with us for news by cable, and by forming a combination they get it cheaply. If the outside papers want to get such news the combination charge a big bonus of course, but we have nothing to do with that.

Mr. Dawes—But could not the public or the other papers send this news?

Dr. Green—We have not the slightest objection. It is not our funeral; they can send as much as they like.

Mr. Dawes—The complaint seems to be that the Western Union shields itself in the statement that it is none of its business, while at the same time it gives the Associated Press special facilities. I think some legislation is needed to correct this.

Dr. Green—Let the Government start a news bureau, then, and collect and send the news itself.

Mr. Dawes—You have the right to make such terms as you please with the Associated Press, have you not?

Dr. Green—I assume that as public carriers we have to carry all public messages at a common charge.

Mr. Dawes—My impression is that you have a right to charge any price you please.

Dr. Green—Well, that might be, but wherever we make concessions, we have special conditions attached.

Senator Matthews—Have you not used your power under the Act of 1866 to make contracts with the various railroad companies that they shall not

give to other telegraph companies the privileges to which they are entitled under that act?

Dr. Green—No, sir, we have not. Between here and New York there is really no economical advantage in having our poles on the railroad. I wish our lines between Washington and New York were on the highway; we could maintain them much cheaper. Through the wilder parts of the country there is a material advantage in having them on the railroad.

Senator Matthews—Have you not contracted with any railroad for the exclusive right to erect telegraphic lines on their road?

Dr. Green—We have very many contracts with railroads for the exclusive right of way, and I assume that this bill would not affect them, as there are plenty other avenues open.

Senator Matthews—Yes, yes; but let me put my question under the Act of 1866, as you yourself interpret it. Any organization organized—say in New York—for telegraphic purposes, may go upon any post-road (which includes railroads), even in spite of local legislation—into Florida, for instance, where the State Legislature has passed an enactment forbidding it. It gives you a National privilege over all national post roads. That being so, is it not a fact that as in the case of the Pensacola Telegraph Company, you have made contracts for the entire track where you can? You have made contracts with the railroad companies whereby you bind them to prohibit any other telegraph company to come on that post-road, notwithstanding that the act gives them the right to go on any post-road.

Dr. Green—In the first place it does not give them the right to go on any railroad without the railroad company's permission. It gives the right to maintain and operate lines, having first acquired the right to place them there. That power is given by the States. There is nothing absolutely prohibitory in all that, and I cannot see how this bill is going to help it.

The committee then adjourned until next morning.

Legislative Inquiry for the Western Union Suggested.

THE *Evening Telegram* of this city, in its issue of January 29th, publishes an interesting and ably written communication from a Western Union operator, showing, among other things, how office messages, deadheads, and the like are counted in with the regular paid business for the purpose of reducing the "average tolls" which the public is told accrues to the company from the business handled. The writer begins by saying that in his opinion, the Western Union Company is rapidly approaching that point where legislative interference is necessary for the protection of the public. The franchise which the Western Union enjoys from the people of the United States, he adds, while not exclusive, has practically become so through the combination of a few millionaires with the great railway lines of the country to control this interest, and the late President Orton said that it was the desire and aim of the company to control the telegraphic business of this continent. I am not in favor of transferring the business to the general government for the reason that in a republic too vast a power would thus lie in the hands of the dominant administration to permit a free exercise of popular will at an election, and that while all telegrams in the interest of the administration candidates would receive prompt attention, those of the opposition would have to take their chances of ever getting through at all, and even when they got through, there would be no security that they were not garbled. It is eminently within the province of Congress, however, to properly enact and enforce such laws as will exercise healthful supervision and restriction over the manipulation of a valuable franchise by a few wealthy capitalists.

The Western Union claims a great deal of consideration on the score of low tolls, and annually publishes statistics to show that the cost of transmitting a dispatch is so great as to leave but a small margin of profit. A rigid investigation would reveal the fact that this "cost of transmission" is mainly illusive, and that in order to arrive at it hundreds of thousands of "wire messages" are put into the general average to swell the number of dispatches transmitted, and reduce

the amount of tolls exacted on the average; that hundreds of thousands of dispatches are transmitted for railway and other corporations free of charge, and included in the average, and that all the free messages of the officers of the company and their employes are treated in a similar manner. The effect of this is a false showing to the public with regard to the cost of transmitting a dispatch, and, worse still, the paying public is thus required to contribute toward the support of a vast number of deadheads. A small illustration will suffice to show that there is a "heap of truth" in what I have just said. During the recent Cobb murder trial at Norwich, Conn., there were transmitted to the press alone one hundred thousand words of matter from that small station, while the cost to the company for extra service was less than \$7.

An investigation would also bring to light the fact that the \$45,000,000 of capital of the Western Union Company is mostly fictitious, and made up of watered stock. Way back, nearly thirty years ago, stock of non-paying pioneer companies throughout the Middle and Western States was "gobbled up" by the then managers and projectors of the Western Union Company at from twenty-five to fifty cents a share, the par value being \$100 as now. More recently, when the general consolidation took place, American Telegraph shares were exchanged for Western Union at the rate of two of the former for three of the latter; so with the New York, Albany, and Buffalo, the Atlantic and Ohio, the South Western, and the Illinois and Mississippi. Not a dollar of cash was paid out; the mill was simply set grinding out new stock. A schoolboy can figure on the profits thus accruing to an original Western Union stockholder, or rather stock manipulator, one of whom, at least, is still a director, a general superintendent, and a vice president of the company.

About three years ago a general reduction of salaries was ordered by the "Executive Committee," and a great flourish was made over the statement that this reduction affected the entire staff, from president down to messenger. Nothing was said of the fact, however, that just previous to the issuance of the executive order, and in anticipation of it, the salaries of all the higher grades of employes, down to managers, were increased by just the percentage of the contemplated reduction.

The brunt of this great saving to the company, amounting to nearly \$150,000 monthly, fell upon the operators, the poor clerks, and the poorer messengers. Once more the air is laden with rumors of "reduction," and there is evidence that these same tactics are being resorted to, whereby those least able to afford it will be called upon to contribute to the coffers of an already plethoric treasury. If the company has been successful, and has accumulated wealth at little or no outlay, whom has it to thank for it? Who have been the direct means of helping it reap this golden harvest? Those very operators, by whose skill and fidelity the public have come to have confidence in the free use of the wires, and who are now being ground down by this corporation, and are commanded to kiss the rod held over them for their chastisement. The best years of these men's lives have been spent in this service, and they know no other business. Advantage is taken of this fact by the company, not to promote them, or increase their compensation, but to deprive them of a portion of their hard-earned wages, so that rich capitalists may continue to receive from six to eight per cent. dividends on watered stock. When all other commercial interests tremble with the cry of "Hard times," when financial ruin stalks through the land rampant, then is the season of richest harvest for the telegraph company, for then the wires are used more freely by both press and individuals than ever before; so what would prompt a shrewd business firm to retrench does not obtain for an excuse in the case of telegraph manipulators. Their only excuse, and the only one they can offer is greed and lust of gold.

In view of some of these facts it seems to me that the public has a right to a thorough Congressional investigation into the affairs of the Western Union Telegraph Company. Let it be known to a certainty exactly what the present

material and buildings cost, the number of "dead-heads" on the list of favorites, the number of dispatches sent by paying customers, the cost of maintenance, and the gross receipts of the company from any source whatever—be it Western Union tolls proper, commercial news, gold and stock press, American District, International Ocean, or any other of the numerous sources of revenue, virtually Western Union, but of which the public knows nothing. Then, and not until then, will the whole people know that the published "cost of transmission" is a myth, and that instead of one cent a word for special news dispatches, as now charged the press, the service could be performed, and made to pay, ten times as cheap, and this without reducing the salaries of operators. In our Assembly organization at Albany we find a Banking Committee, a Railroad Committee, an Insurance Committee, and so on, but never yet have had a Telegraph Committee. Is it not time that there should be some legislative supervision over and inquiry into this branch of the great public economy?

President Green on the Cipher Dispatches.

At a dinner given by the Lotus Club of this city on Saturday night last to Mr. Richard C. McCormick, Commissioner of the United States to the Paris Exposition, Dr. Norvin Green, President of the Western Union Company, replied to some criticism that has been made upon the action of the late President Orton in regard to the cipher dispatches.

I can say no more than thank you for the compliment of being called to my feet, began Dr. Green. The compliment, however, I am aware, is due more to the position which I happen accidentally to occupy than to any personal distinction to myself; for personally I am known to very few new members of the club. But, gentlemen, I will take this occasion to say that imputations have been made against my predecessor in regard to the cipher dispatches that do him great injustice. The simple fact is that the principal object of the directors of our company, and its executive officers, was to avoid the surrender of these dispatches to anybody. We believed that there was an honorable obligation to preserve these messages sacred from the eyes of mortal man, and we resorted to every proper and legitimate device consistent with due respect to the authority of Congress, to prevent the members of Congress from getting them. Expecting that Manager Barnes, of New Orleans, would be called upon to produce the messages before the Morrison Committee, we ordered them away from that place, so that he had no messages to produce, or any power to produce them. He was held in contempt, and imprisoned. Messages were ordered from every place to the custody of the executive officers in New York. The Executive Committee took the custody of them away from the officers into their own custody. And so the President of the company pleaded when arraigned before the House, that he had no power to produce them. This plea gave the House Committee the first intimation as to where the true custody was lodged, because we had not chosen to make that public. Now the charge of a very able and distinguished journal, that is usually well informed on most subjects, that the President of the Western Union Telegraph Company, being a prominent Republican, managed dexterously to avoid delivering those telegrams to the House Committee, but turned them over in wholesale to the Senate at command, is exceedingly unjust. The House Committee had the first intimation that the messages were in the custody of the Executive Committee. They did not, however, act upon that information, but the Senate Committee served a subpoena upon every individual member of that Committee to report before the Committee, and produce those dispatches. There was no further refuge or resort, and no alternative but to surrender them. The Committee immediately repaired in a body to Washington, and there was served with a similar subpoena from the House Committee. They held a meeting, and resolved to deliver the messages in the order called for by these respective subpoenas. To copy these dispatches would have required weeks of labor, for there were over 29,000 of them.

The imputation, therefore, of dexterous management on the part of the late president of the company in the direction of political bias is exceedingly unjust, and I desire to so state. The request was made that the telegrams should be kept from the eyes of every person or persons, except those entitled, by reason of their official position, to examine them,

and that they should be returned to the company as soon as the examination had been completed. Of course when they got the messages, it was ascertained that they were not what they were expected to be; and they were not very anxious, and nobody seemed to care to examine them at all. So we very soon began to attempt to procure their return, for they did not seem to be of any importance. We gave them to the committee in packages locked up in a large trunk, 29,500 of them. Each particular day's messages were done up in a package, and separately labelled. But they came back to us in glorious confusion. The President said he thought that the messages had better be burned. Our resolution required us to keep them for six months. I was not in a hurry, and so they were locked up in a store-room until the six months had expired. I then sent my son down to personally supervise putting them into the furnace, and burning them up. We did not have any reason to doubt that they did not all come back, but it appears they did not. [Laughter.] I protest, gentlemen, that the company is in no way responsible for that delinquency. We did all that we could to resist giving them up. We destroyed them when we thought they were returned. We did all that we could to impress upon every one connected with it the sanctity of the dispatches; but packages of them were evidently taken from the committee's table without the knowledge of the members of the committee, certainly without the knowledge—

Mr. Croly—Isn't it true that those incriminating the Republican party were burned, and those incriminating the Democratic party preserved?

Dr. Green—I will answer for myself, sir; that I never read one of them.

Several voices—Never?

Dr. Green—Well, hardly ever. [Great laughter.]

Mr. Croly—Excuse me, Dr. Green, but in the cross-examination it was charged distinctly by the witness on the stand, that the telegrams affecting the Republican party were all burned, while those incriminating the Democratic party were saved. I simply say that that was the statement of the witness upon the stand.

A voice—No, I think you are mistaken.

Mr. Croly—It was Mr. Marble.

Dr. Green—I don't know how Mr. Marble should know. It is not generally known, except among the legal profession, exactly how this question stands. We are subject to orders of juries and courts, and there is no escape. *The Evening Telegram* commented severely upon the conduct of the company in not taking the question to the Supreme Court. Well, if there was any lawyer who could tell us how to get it before the Supreme Court we could not find him. We tried to get a writ of habeas corpus to get our men out of jail, and we couldn't even do that. Privileged communications are only such as have been made so by statute. Legislative bodies and law-making powers have enacted that communications between lawyer and client, between doctor and patient, and between confessor and confessor are privileged communications, which no court requires to be revealed.

The first thing a telegrapher learns is that sacred confidence is the elementary principle of his profession; and that it would be as dishonorable for him to reveal the secrets contained in the messages which he receives and transmits, as it would be for a doctor to divulge the secrets of his patients, or a lawyer those of a client. During twenty-five years of experience as an executive officer, and in telegraphic management, I have never known of a case in which this principle has been abandoned by a telegraph employee. I have never known of a complaint being made in all these twenty-five years, in which it has not been demonstrated that the divulgence occurred in some other way than through the operator or employee of the telegraph company. I thank you, gentlemen, for the opportunity thus afforded me for meeting the aspersions which have been cast upon my predecessor. (Applause.)

Biography of a Well-known Western Operator.

Having noticed the biographies of several telegraphers in *THE OPERATOR* some time since, and thinking that perhaps another might be acceptable, I send you the following:

CHARLES SELDEN

Was born at Cincinnati on the 8th of January, 1849, making him thirty years of age last month. His first experience with the telegraph was in 1860, when he carried messages for a short time at Leavenworth, Kansas, leaving there to attend the Dela-

ware University, whence he graduated in 1865. After leaving college he again turned his attention to telegraphy, entering the office at Hamilton, Ohio, as a student with Geo. Griswold, an old House operator. Three months later he went to Connorsville, Ind., and took charge of the office at that place. Thence to Cambridge City as operator and clerk of the railroad shops, and from the latter place to the Cincinnati main office, where, at the age of twenty, he was appointed assistant night manager.

While on the night force at Cincinnati he acquired his reputation as a receiver, being one of the few men who could "take" Patsy Ayers without breaking. After two years' night service he was appointed assistant day chief at Cincinnati, remaining in that position until about two years since, when he resigned and came to Toledo on account of his wife's health. While at Cincinnati he had charge of the office during the convention which nominated Horace Greeley for President, and filled the same arduous position when President Hayes was nominated.

On coming to this city he was assigned to the Cleveland and Chicago quadruplex circuit, which is worked through a repeater at this point, necessitating changing from one side to the other, and, of course, causing more or less delay, as Chicago was liable to break him when sending to Cleveland, and *vice versa*, neither being able to hear what was sent to the other. It was not long, however, before he had arranged local circuits in such a manner that he could send to either office from one side, both hearing everything that was sent.

Mr. Selden is the inventor of, and holds a patent on, a system of fire alarm telegraphy, one feature of which is the use of a differential relay at the central station, which admits of alarms though the loops be broken. He uses a metallic loop out and back, which is in itself a "balancer." No battery is used except as bells are ringing, and, by a small talking battery with keys, which increase the resistance of the wire, talking can be carried on over the same wire that the alarms come in on, and at the same time an alarm is striking, without affecting alarm signals. If the loop be broken all boxes register their signals as if the wire were intact.

Beside being practically and theoretically an able electrician, Mr. Selden possesses a high order of literary and musical talent, having written a good deal, principally humorous sketches, and being the commander-in-chief of the musical forces of the Toledo Electrical Society, of which he is also one of the "instructors." As an instructor he is simply perfect, understanding thoroughly all matters pertaining to electricity, and possessing the faculty of making others understand. He is a diligent student, his spare time being occupied with study or experiment, and, unless the writer is much mistaken, will before long come more prominently before the public as an inventor of high merit.

I am unable to give a history of the early life of Mr. Selden other than the above few facts gleaned from him in conversation at different times during the past two years, but the present biography will answer the writer's purpose, as he merely wishes to make some return for the kindness of the gentleman in helping him along with electrical matters.

FRITZ.

TOLEDO, OHIO.

The American District Telegraph Company.

Since the first application of electricity to purposes of communication, no more useful or comprehensive development of the system has been met with than that which belongs to the famous American District Telegraph Company, of this city, the services of whose messengers and agents are now felt to be as necessary by the most important classes of the community as those of the post-office or the morning newspaper. The light-limbed Mercuries, who are to many people the visible embodiment of the system of this useful organization, traverse our streets and avenues at all hours of the day and night, and to all intents and purposes are ubiquitous. The American District Telegraph Company was organized in 1871, and the first district office opened in May, 1872. It has a capital of \$2,000,000. E. W. Andrews is President; A. B. Cornell, First Vice-President and Treasurer; T. M. Foote, Second Vice-President and Managing Director; C. B. Hotchkiss, Secretary and Assistant Treasurer; and H. W. Pope, General Superintendent. Its district offices and public and private buildings, theatres, police stations, &c., are connected by about 300 miles of wire, the city being divided into three inspection divisions, each under the charge of an Inspector. The company undertakes to supply competent and reliable

patrolmen and watchmen to guard the premises of their clients day and night. At the present time there are 29 patrolmen so employed. Then there are also private telegraph boxes, operated upon a similar principle to the fire alarm telegraph with which everybody is familiar. By means of these boxes, which are placed in both public and private buildings, messengers or policemen, or firemen with Babcock extinguishers, can be instantly summoned from the nearest district station. The company now has upward of 4,600 of these boxes working. The offices are also connected with the different theatres, and seats can thus be secured without the trouble of a personal visit. The Burglar Alarm and Night Watchman Signal Service has grown to a wonderful extent, and by the use of either of these features fire and robbery is next to impossible.

The messenger system of the company is a wonderful example of the perfection to which an organization can be brought when in the hands of men of great organizing and executive capacity. There are now on the book the names of 558 messengers, whose services can be had at the rate of thirty cents per hour. When a boy applies for employment as a messenger, he has to bring letters of recommendation from reputable persons. He is put through a course of examination in reading, writing, and arithmetic, and, if accepted, appointed on Special force, during which time he spends ten days in the Training School, and is educated in the general business of the company, calculation of tariffs, &c., by teachers employed by the company. At intervals examinations take place, when the capacity of the boys is thoroughly tested, and those that are proficient are drafted on the regular force, outfits are furnished them, and they are assigned to their proper districts. In an immense ledger is kept a minute record of the conduct of the boys, marks of good conduct being credited when deserved, and the smallest fault or violation of rules is followed by bad marks being debited to the account of the offender. The objective point of this system is to encourage the development in every boy of the utmost capacity that is in him. According to their abilities they are promoted in the service, and many of those who are now clerks and operators entered the company's service as messenger boys. The Circular Department of the company is so perfect that it is possible to deliver 50,000 addressed letters in an hour in all parts of the city.—*New York Trade Journal*.

Experiments with Electric Light.

The Merrimack Manufacturing Company is experimenting with the electric light, and on Monday last introduced 16 of the Brush pattern into the basement of Mill No. 1, where 500 looms are run. They have put 12 of the lights into the weave-room, where 132 five-foot gas-burners have been used, and 4 into the mule-room, where 70 gas-burners have been used. These electric lights are fed by one machine, requiring 14 horse-power to drive it, and which, it is understood, cost about \$2,000, each of the lanterns costing \$65, and the consumption of carbon points is about 4 cents an hour. If the whole mill of four buildings, in addition to the print-works, were lighted, it would require not less than eight, and possibly twelve, machines calling for about 20 horse-power each. The mill has, all told, 2,850 gas-burners, and the annual gas bill is within \$5,000. The Merrimack Company's experiment was opened for public inspection yesterday, after 4 p. m., and was witnessed by about 125 gentlemen, representing other Lowell manufactories, and from Boston, Lawrence, and northern points. The corporation employs 2,500 persons, weaving 825,000 yards of print cloths, and 15,000 yards of pique each week, running 3,857 looms. The print mills employ 500 hands. The electric light last evening was strong and steady, but the weavers complained that the present supply cast strong shadows in upon the harnesses, and contended that as many more lights would be needed, ranged so as to overcome this difficulty. Whether this increase would make the light too strong, and render the operatives color-blind, is a question. It was understood that if the mill were lighted with electricity the machines would be run 15 minutes before the operatives enter, so as to get the currents at work. Some thought that this would require a special motor for each electric machine; if not, taking the power from the shafting would make the 15 minutes' run of belts and shafting, with no product from the looms and mules, expensive.—*Boston Advertiser*.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY.

W. J. JOHNSTON, - - - Publisher.

February 15th, 1879.

WESTERN UNION stock is quoted at 99½; Atlantic & Pacific at 37½, and American District, which has recently made a sharp advance, at 44.

It is said that Mr. Edison is writing a book on the electric light, which will be published simultaneously in this country by Harper Brothers, and in England by Sampson, Low & Co.

WHILE in Paris Gen. Grant was photographed by the light of the Jablochkoff candle. Better portraits, it is said, are produced by this light than by sunlight, and, as sittings can be given in the evening, it is thought that it will become popular among photographers.

Messrs. L. G. TILLOTSON & Co. advertise in this issue telephone material of every description at low prices. This firm is as enterprising as ever, always keeps on hand a large stock of every kind and description of telegraphic and electrical instruments and apparatus, and sells at the lowest possible prices. Purchasers will always be certain of securing bargains at Tillotson's, and may rest assured of honorable dealing, and that goods purchased there will be as represented.

We wish correspondents would always remember to sign their full name and address to every item of news they send. The names will not be published, but are required for the information of the editor, and as a guarantee of good faith. There is hardly an issue but we receive articles that we are compelled to consign to the wastebasket by reason of this omission. We are always glad to receive short articles, personals, and other items, but don't send them anonymously. We even receive many questions without a name attached. While we are always glad to go to considerable trouble to answer questions of general interest through THE OPERATOR, we positively can't give attention to those sent anonymously.

A MOTION for a permanent injunction restraining the Central Union Telegraph Company from running its lines in Greenwich and Seventh Avenues, this city, was argued before Judge Sedgwick in the Supreme Court, Special Term, last week, in behalf of the Gold and Stock Telegraph Company. It was claimed for the plaintiffs that its lines were first constructed along these avenues, and the running of the defendant's lines, in such proximity as was necessary when they ran on the same side of the street, prevented perfect insulation. This latter was denied by the Central Union Company. As the plaintiff's lines are on both sides of the street, this was practically an application to have the defendant's wires removed from the streets. Decision was reserved. ⚡

The New York Fire Alarm System.

The promptness and efficiency of the Fire Department of this city on the occasion of the recent destructive conflagration in Grand and Worth Streets cannot be too highly praised. The Department has attained a degree of perfection that leaves little to be desired, while its system of telegraphic intercommunication is believed to be more complete than that of any other fire department in the world. Exclusively devoted to its use there are within the city limits 700 miles of wire, divided into six metallic circuits, and mounted upon 4,550 poles. No wires are now run over the tops of houses, as they formerly were, but are all strung on poles. 550 street alarm-boxes, in 41 alarm-box circuits, communicate directly with headquarters in Fireman's Hall, Mercer Street. Besides the forty-one alarm-box circuits, there are eight gong circuits, four telephonic circuits, three dial circuits, two tower circuits, and one circuit which connects the headquarters with the gate-house at the large reservoir in Central Park. In the various company quarters there are altogether sixty-four large alarm gongs, and there are twenty small gong instruments at the residences of the Commissioners, in the quarters of the battalion chiefs, etc. Eighteen dial instruments enable the officers at Fireman's Hall to send messages to the battalion headquarters, to the Central Office of the police in Mulberry Street, and to the department's repair shops.

The central point of communication is, of course, at the headquarters in Mercer Street, where the finest and most extensive electrical apparatus ever constructed for any fire department was lately set up. To accommodate the glittering and complicated machinery a large platform was raised at one end of the hall on the top floor of the building. The platform is inclosed on three sides by tall frames of solid mahogany, richly carved, the side toward the body of the hall, whence the platform is reached by a short staircase, remaining open, so that the whole key-work of the apparatus is exposed to view. At the front of the platform the wires pass in from the street, and down to the top of the mahogany framework, which is about four feet from the ceiling. The spare annunciator, spare register, automatic wire-testing instrument and switch are on the same side of the platform. Upon the south or right side of the frame-work is fixed the main switch-board, the galvanometers, and the rheostat, and on the opposite side are the main register, the annunciator, relays, keys, and fire levers. The large repeaters, or transmitters, stand out in the open space of the platform, mounted on pedestals of richly carved mahogany, in keeping with the splendid finish of the machines.

The main switch-board is of marbleized slate, sixteen feet in length by three feet wide, and contains 748 switches used for a variety of purposes, such as connecting extra batteries or instruments to any wire, connecting ground wires for tests, and transferring wires to other than their regular instruments. In addition, there are 227 switches in other parts of the office. From the switch-board wires lead to the batteries, galvanometers, relays, and keys. Each circuit is provided with a small galvanometer, which shows at all times the condition of its wire, and the strength of the corresponding battery. When this galvanometer indicates the existence of a "cross" or "escape" on its circuit, the circuit is switched to the rheo-

stat galvanometer, and the exact whereabouts of the trouble determined.

Besides a pen for each box circuit there is placed in the centre a "fire-pen," which prints all alarms from street-boxes in red ink in addition to the black ink registration made by the regular box-circuit pen. There are fifty pens in all. The registering instrument is set in motion by the first tap from the street alarm box, and stops automatically as soon as the alarm is recorded. There are three transmitters or repeaters, by which any alarm may, if necessary, be sent to each fire company at the same time. One of these transmitters is new, and much larger than any other machine of the kind ever manufactured. It has several trains of wheels moved by a weight, and so arranged that any of the many combinations of signals in use by the department may be transmitted at one setting of the indexes, making a great saving of time over the old method. Convenient to the transmitters is a combination switch for connecting the gong-wires with the instrument.

Perhaps the only way to convey any idea as to the manner of operating this great electrical apparatus will be to take a case in point. On the night of the great fire in Worth Street the alarm was sent out from box No. 86, at the corner of Broadway and Thomas Street, one block from the fire. At the first break of the current an electric bell was rung in the telegraph office at headquarters, and at the same time the number of the street-box was shown upon the annunciator. The operator immediately pulled down the lever switch, which threw box No. 86 into direct communication with the talking or dial instruments in all the company quarters throughout the city. At the same time the assistant operator set the transmitter, and in a few seconds after the spring was touched in the box at the corner of Broadway and Thomas Street the alarm had been sounded in the quarters of all the engine and hook and ladder companies that are due at Box No. 86 on the first call. These consisted of four engine companies, and two hook and ladder companies. At the second alarm, which was changed at once to a third owing to the emergencies of the case, seven additional engine companies, and three hook and ladder companies were called out in the same way. At the fourth call all the companies which would have been due at a fire in the neighborhood of Union Square were called into action just as easily as the first companies had been summoned. Meanwhile the registers were rapidly taking down in black and red ink all the messages that came to and went from the Central Office. Each time that a call was sent the horses in all the quarters to which the alarm had been sent were released at the first tap of the gong. This is accomplished by a simple contrivance which connects the fastening of the boxes with the wires, so that by the time the last tap has been sounded the well trained animals had run to the pole and had been hitched to the machine.

During a fire the officers of the department are always able to send messages to the Central Office from the nearest street-box by means of a simple Morse key which they carry with them. Thus, when a greater pressure of water was wanted at the Worth Street fire the signal was sent from Thomas Street to Fireman's Hall, thence to the keeper at the Central Park Reservoir, and in a few seconds after the first call from the scene of the fire the flood-gates of the reservoir were swung open. In the same way calls may be sent instan-

taneously for the Corp of Sappers and Miners in case it becomes necessary to take down dangerous walls, or blow up buildings; to the fire-boats if the fire is near the river shore, or to the hospitals if an ambulance is needed to remove wounded persons.

Each piece of machinery used in the reception and transmission of fire-signals at the Central Office is duplicated, so that if an accident should occur to any instrument the wires may, by the movement of a single switch, be thrown into connection with the reserve machinery. The batteries which supply the current to all the electrical machinery are composed of 1,250 cells. They are situated on the ground floor, and have 200 wires leading to the operating room. The present system of electrical communication is the result of two years of hard work, done principally by Mr. Emerick, the Superintendent of the Fire-Alarm Service, and Mr. J. Elliott Smith, the chief operator. The present working apparatus of the Fire Department consists of forty-three engines with their hose tenders, seventeen hook-and-ladder trucks, nine chemical engines, and five aerial ladders. The latter, however, are not at present in use. The number of firemen is about 600.

One Kind of Champion.

WM. DWYER, operator at Sherbrooke, Quebec, is a man whose place, should he happen to resign or be discharged, the Montreal Telegraph Company would find it difficult, not to say impossible, to adequately fill. To be more explicit, Mr. Dwyer, it is believed, is the champion mean telegrapher. We are sorry for the Dominion, but such seems to be the fact. As reported to us—with the suggestion that the facts should be published and the matter exposed, that the fraternity may be on the lookout for such men as William Dwyer—the champion's latest exploit in the way of meanness is after this wise: A short time before Christmas Dwyer ordered a copy of "Christmas Evergreens" from our agent at Portland, Me., and the book was mailed him about Christmas time. Some three weeks afterward, there being no signs of pay, the agent asked Dwyer, over the wire, if he had remitted for the book. "Oh, yes," he replied, "I sent you a registered letter yesterday." A week, however, rolled by without bringing the registered letter, when the agent asked for an explanation, and was told that the receipt for the registered letter would be sent him, so that he could inquire about it at the Portland post office. Several days elapsed but the receipt came not, whereupon the agent, beginning to lose confidence in the veracity of his Sherbrooke customer, wrote the postmaster at that place inquiring whether one Wm. Dwyer had mailed him a registered letter during the latter part of December or beginning of January. To this the postmaster replied, "No such letter recorded on my books." The agent acquainted Dwyer of these facts, told him how surprised he was at such conduct on his part, and intimated that he must have either the money or the book at once. It was not, however, until he had written the Superintendent, and the influence of that official and of the manager at Sherbrooke had been brought to bear upon Dwyer, that the book was finally returned; and when returned the book was in so damaged a condition as to be wholly unsaleable. There were four or five ink stains on the cover, the corners of which were all bent over. Accompanying the book was a most

insulting letter, abusing the agent in no measured terms for attempting—perhaps we might say presuming—to collect an honest bill after exhibiting so much patience as he had. That is the case in a nutshell. It needs no comment, but we are sure all who read it will say, with the agent: "It is the smallest and meanest trick I ever heard of."

Subscribe for your own Paper in Future.

The subscription price of THE OPERATOR is low enough in all conscience, yet there are thousands of telegraphers who regularly borrow a copy each issue from somebody else, instead of subscribing for one for themselves. This is neither fair nor encouraging. How can we be expected to supply a paper like THE OPERATOR for a dollar and a quarter a year when the list of subscribers is only one-fourth what it should be? We hope non-subscribing readers will take this hint, and that subscribers—who must be very much annoyed by this everlasting borrowing—will insist hereafter upon their either subscribing for a copy for themselves, or giving up reading the paper. A correspondent in the New York main office says: "Four men come to me every 15 days regularly to borrow my copy. It disgust me;" and a correspondent in a Western city writes: "I find that there is too much loaning in these parts to secure many subscribers. I don't know how it is with others, but here one paper serves for four or five readers. We have in this office twenty odd operators, and only four subscribers for THE OPERATOR. One man will take it and show it to a half dozen others. An operator at one of the depots in this city, where four railroads center, takes the paper, but no one else in the building does. Why? Because they regularly drop into his office when the paper is due and read it. I have had some experience in that respect myself. I furnished THE OPERATOR for two others—'a brother and sister'—for a whole year, when I finally asked them to subscribe for it 'between them;' but no. Hence my stopping my sub. I do not desire to be stingy, but I have sworn that they shall never see my copy again. They, like everybody else, are crazy to see THE OPERATOR, and as long as they can sponge from others—some of whom are getting smaller salaries than themselves—will not even invest 63 cents apiece. Your paper has got to be indeed a very interesting one, and I, like all others, can hardly wait until its arrival. Therefore I say let every operator in the land put down his foot and not lend it to such men. I am highly pleased with THE OPERATOR, and feel ashamed of the fraternity for acting so in regard to its support."

JUDGE BLATCHFORD took the papers and reserved his decision upon the motion made before him by the counsel of Clinton G. Colgate, to have the Gold and Stock Telegraph Company enjoined from the use of gutta percha insulators of the Simpson patent. The complainant made nearly the same claims as on the motion for an injunction against the Western Union Telegraph Co. The defendant claimed that to prevent the use of their thousands of printing instruments and telephones would be a great public inconvenience.

WE have received from the Brooklyn Telegraphers' Association a complimentary invitation to a grand reception to be given by them at City Assembly Rooms, Washington Street, on Wednesday evening, February 19. S. H. Edwards, John J. and P. J. Tierney, D. W. McAneney, L. Kirschbaum, and Chas. Reynolds are the Committee of Arrangements.

Themes for the Thoughtful.

Wise is the man who can learn from his enemies.

It is a fool who praises himself, and a madman who speaks ill of himself.

A good report lingers on its way, but an ill one flies straight to where it can do most harm.

The sublimity of wisdom is to do those things living which are to be desired when dying.

Nothing that we do is fair and lovely unless it is done with reference to others as well as ourselves.

Self-denial is the most exalted pleasure, and the conquests of evil habits the most glorious triumph.

Many men claim to be firm in their principles, when, really, they are only obstinate in their prejudices.

Despise not advice, though even of the meanest. The gabbling of geese once preserved ancient Rome.

Great men owe their fame to the littleness of the rest of the world. Fame is only a result of comparison, after all.

Nothing is so wholesome, nothing does so much for people's looks, as a little interchange of the small coin of benevolence.

You may mend a rent in a damaged reputation so that it may not show, but you can never make the reputation quite whole again.

Beware of prejudices; they are like rats, and men's minds are like traps. Prejudices creep in easily, but it is doubtful if they ever get out.

Beauty may attract love at first, but it alone cannot retain affection. It is the sterling qualities of the heart and mind that win in the long run.

Mere immensity of size always astounds; but our wonder at the vast results accomplished by comparatively slight means remains the longest with us.

God will not force the truth into a soul. He puts the tree of life before a man, and the beautiful fruit hangs all golden before him, but man can take it or let it alone.

When we are in prosperity, we are ready to think our mountain will never be brought low; so when we are in adversity we are ready to think our valley will never be filled up.

It is a dreary sensation to find one's self wholly forgotten by mere acquaintances; but to find that we have no place in the thoughts of those we love, seems in a certain sense like being annihilated.

Alack, this world

Is full of change, change—nothing but change!
Is there not one straw in life's whirling flood
To hold by, as the torrent sweeps us down?—
Us, scattered leaves; eddied and broken, torn
Roughly asunder, or in smooth mid-stream,
Divided each from other without pain;
Collected in what looks like union,
Yet is but stagnant chance—stopping
By the same pebble till the tide shall turn;
Then on, to find no shelter and no rest,
Forever rootless and forever lone.

Courage is always greatest when blended with meekness; intellectual ability is most admired when it sparkles in the setting of a modest self-distrust; and never does the human soul appear so strong as when it foregoes revenge and dares to forgive an injury.

A courteous man often succeeds in life, when persons of ability fail. The experience of every man furnishes frequent instances where conciliatory manners have made the fortunes of physicians, lawyers, divines, politicians, merchants, and, indeed, individuals of all pursuits. In being introduced to a stranger, his affability or the reverse creates instantaneously a prepossession in his favor, or awakens unconsciously a prejudice against him. To men civility is, in fact, what a pleasing appearance is to women; it is a general passport to favor—a letter of recommendation, written in a language that everybody understands. The best of men often injure themselves by irritability and consequent rudeness; whereas, men of inferior abilities have frequently succeeded by their pleasing and agreeable manners. Of two men, equal in all other respects, the courteous one has twice the advantage, and by far the better chance of making his way in the world.

Telegraphic Insurance Associations.

We have received the printed reports of the proceedings of the respective annual meetings of the Telegraphers' Mutual Benefit Association, and of the Canadian Telegraphers' Mutual Insurance Association. We already gave, at the time, a synopsis of the business transacted at the annual meeting of the former association, with extracts from the reports presented on that occasion. The Telegraphers' Mutual Benefit is in a prosperous condition, and telegraphers desiring insurance can certainly obtain it nowhere else on so favorable terms. None of us know how soon death may overtake us, and those having families or friends depending upon them, should not neglect to make some provision in case they should be called away. The expense to members of this association—which is equally true of the Canadian one—is very much less than insured persons have to pay in any of the regular insurance companies, while it must be great satisfaction to those who are called upon to contribute a dollar, to know that it goes direct to the heirs of a brother operator. Blank applications for membership, and other information, can be obtained on application to A. H. Watson, Secretary and General Agent, P. O. Box 3,175 New York, or of any agent of the association, of whom there are at least 75 scattered over the entire United States.

From the annual report of the President of the Canadian Association, it appears that the number of members at the end of the year was 329—37 new members having been added during the year, and 49 dropped from the roll for non-payment of dues. The balance reported from last year was \$677.25, in addition to which there was received during the year for annual subscriptions, from new members, fines, and interest, \$395, and on assessments, \$1,720. \$640 was paid to the heirs of D. H. Flook; \$625 to the heirs of J. M. Blanchette; and \$300, on account, to the heirs of George Yule. These and other expenses being deducted, left a balance on hand of \$873.45.

In the Canadian Association the initiation fee is one dollar, and the annual subscription same amount. Members are assessed two dollars for each death, the amount collected being paid in full to the heirs of the deceased, or to the member himself when he becomes totally disabled, and has in consequence no means of livelihood. In the Telegraphers' Mutual Benefit Association the initiation is \$2; there is no annual subscription, and the assessment is \$1 on the death of a member, though claims are sometimes paid by both associations out of the funds of the treasury without an assessment. Charles Bourne, Treasurer and Auditor of the Montreal Telegraph Company, Montreal, is President of the Canadian Association; and James S. McConnell, Treasurer's Department same company, is Secretary. Blanks and other information can be had of either of these gentlemen.

Electric Illumination.

It has always been held that the electric light is practically indivisible. What is meant by this is that if 15,000 candle power can be got from one electric lamp, the same power cannot be got from a number of lamps if they are supplied with the same identical current. If one lamp will produce 15,000 candle power, five lamps with the same current will only produce about 2,000 or 3,000 altogether. Up to the present year it has been impossible to use more than ten lamps, lighting by means of the voltaic arc, in any one circuit, because there would be no light at all in them. In place of the limpid, sunlike brilliancy of one great lamp of 15,000 candle power, there would be utter darkness. This loss of light by subdivision of the current has been regarded as a thing unique in science and really quite remarkable. It has been held to form an insurmountable barrier to the utilization of electricity for lighting dwellings. Fontaine, the engineer of the Gramme Company in Paris, has been very emphatic on this point. Using a galvanic battery, he found that the total light given out of five lamps was about one-fiftieth part of the light given out when only one lamp was used in the current. Fontaine insisted strongly that the light is indivisible. He printed a book on the subject, and his word has been received until recently almost without question.

It now appears, in the first place, that the loss of light by the subdivision of the current is not a thing unique and difficult to be accounted for. Exactly the same thing takes place in the subdivision of a stream of illuminating gas. Professor Morton recently exhibited in Hoboken the Sugg gas burner from London, a burner which gives a very perfect

combustion of gas. A 50 foot gas burner is found to give a light equal to about 300 candles. The burner has been tried by many of the engineers of the gas companies of the city here, and they find that a 40 foot burner gives a light equal to that of 250 candles, and a 50 foot burner one equal to that of 300 candles. If, now, this same stream of gas be supplied to ten 5 foot Sugg burners, each light would be found to be equal only to 15 candles, the total not exceeding 150 candles, as against 300. If the gas was supplied to 50 burners, little half blue flames would be created, which would hardly be lights at all. The explanation is, that in the large lights the particles of carbon are simply in a state of more intense incandescence by reason of the greater heat. The lower the heat, the less intense the incandescence, and the more feeble the light. This fact of the loss of light by the subdivision of a current of gas is now fully established. It shows that the loss of light by subdivision in electricity is not at all an unique circumstance. Intensity is lost both in gas lights and electric lights, and for exactly the same reason.

A Tragedy.

HE sat at a ricketty table in his dingy office endeavoring to commit to memory by the feeble, uncertain light of a miserable lamp, with smoke, begrimed chimney, the latter part of Poe's "Raven," but in vain did he essay to collect his wandering thoughts and concentrate them upon the poem. The instrument, ticking softly by his side with its message of woe and sorrow, had distracted his thoughts, and vividly arose in his mind a picture of the grief and despair in some loving mother's heart when she receives the passing message he has just heard. "Willie is dying. He asks continually for mother. Can you not possibly come?"

He closed the book, and leaning his head upon his hand, gave way to the gloomy, despondent thoughts that all day he had been striving against. Dark forebodings of evil and warnings of impending danger, not to be carelessly thrust aside, now rushed upon him with their full force, and as he gazed out upon the dark, stormy night he instinctively shrank back to the furthest corner from the window, and, shuddering, listened to the wind that sighed and moaned—now rising, now falling, now wailing and groaning as if in the most distressing agony; now suddenly lulling into a calm so still, so quiet, so awful that his flesh crept, and he felt relieved at the violent gust that followed. The windows rattled and the dim light from the lamp flared up and went out, leaving him alone in the gloom and darkness. With nervous, trembling fingers he hastily relit the lamp, raked the dying fire, and endeavored to laugh away his childish fears. Never before had he been so impressed with such a sentiment of awe and dread, and, grown man as he was, it was with feelings of fear and trembling that he closed the office and started on his tedious tramp along the railroad to his home in the far distant center of the town. The high banks of the railroad were wet and slippery, and the rain drifted in his face as he groped his way in the darkness. He had safely passed half his journey homeward without accident, and when safely over the high, narrow bridge, without a railing or protection on either side to prevent the traveler from slipping over into the roaring river beneath, he would feel much safer and consider that his fears were idle. He has reached the bridge, and is cautiously feeling his way over it when suddenly he hears an unusual sound, and, straining his eyes, leans forward to ascertain the cause of it. Not six feet away, advancing directly toward him, he sees the figure of a tall, powerful man, with one hand behind his back and the other concealed beneath his coat. With hair rising on end and feeling that his time had come, he prepares to sell his life as dearly as possible, and buttoning his coat tightly around him he braced himself for the coming encounter.

The stranger continued to advance slowly toward him, and when within a distance of two feet stopped with a start and remarked: "Good evening."

"Good evening, sir."

"Have you got any such thing as tobacco about you, friend?" asked the stranger.

"No, sir."

And he moved on without further adventure.

INDEPENDENCE SMITH.

A fire, which caused a loss of \$150, occurred February 1st in the five-story wire factory of Cary & Moens, at No. 234 West 29th Street. It is supposed to have been caused by a defective heater.

A Plea for Fewer Students.

All agree that an organization is needed—not for the purpose of striking, but for self-protection against capital. This purpose may be accomplished in a variety of ways, but, in my opinion, the one thing needful is to prevail upon ourselves to stop sharpening razors with which to cut our own throats, make it the Alpha and Omega of the constitution that *none shall teach telegraphy*; and, if strictly followed out, a few years will prove that no strike is necessary, no sliding scales possible, and that instead of men being driven out of the profession by the clamor of the wolf at the door, inducements to return will be offered to old stagers who otherwise would have died in obscurity—perhaps in the poorhouse. In the principal commercial offices a large percentage of clerks and runners learn on city lines, and messengers and "friends" of operators are taught; colleges furnish about one in a thousand. What can we do to stay this tide which is now pushing us to the wall? We cannot plead ignorance of the cause; and, since the cause is so apparent that any operator, "even though a fool, need not err therein," shall I point out the remedy?

It is evident to all that, as the railroads are the inexhaustible quarries from which telegraph companies expect to be supplied, against this wholesale manufacture of operators by railroad men must be directed our united strength and energies. Each individual telegrapher, and more particularly those engaged on railroads, should resolve from this day forth that he will teach neither "friend" nor foe, that he will stay the storm and say: "Thus far shalt thou go, and no farther." It is now, this moment, in our power to stamp out the spark before it becomes a consuming flame.

Railroads are the nests in which are hatched the vast multitude of novices who swarm around and overshadow our profession like a cloud. To railroads we are indebted for this hydra-headed monster and his Briarius, with his hundred hands, each wielding a club of herculean size and strength, dealing deadly blows at the very root of our profession. Railroad and commercial men, you need not lift your hands save to stop teaching. Will you not do this? Do not delay. Do not think because one man you can do nothing. The world is composed of mites, and you are one; therefore put your shoulder to the wheel. Write Mr. Johnston, editor of this noble little sheet, that you favor the movement and will stop teaching. Don't be afraid—he will not injure a hair of your head. "Those who help themselves, heaven will help."

Commercial operators can form an organization, and place it upon wheels; but it rests with the railroads whether it will be pushed on to success. We wish to hear from every railroad operator who reads or hears of this paper. Don't wait for the iron to get hot, but strike until it is made hot.

OPERATOR.

Carbon Pencils.

Among the manifold functions which the elementary substance carbon performs in organic nature, not the least important is that by which it becomes the great source of artificial illumination, whether derived from oils, coal-gas, or from coke rendered incandescent by the action of powerful electric currents. Since the time when Davy first produced the voltaic arc between two points of wood charcoal, through which was transmitted the current from the great battery of 2,000 plates belonging to the Royal Institution, many experiments have been made to determine the best kinds of carbon for developing the electric light. The carbon which, until recently, was most commonly employed for this purpose, is obtained from the sides of gas retorts, where it accumulates in the form of coke during the destructive distillation of coal. The shells of coke from the retort are sawn up into pencils from one-quarter to half an inch square, and from six to nine inches in length. Although very good results are obtained from carbon of this kind, it is a difficult material to work on account of its hardness, and it sometimes contains impurities which interfere with its conductivity. It is also liable to fracture when suddenly heated by the transmission of powerful electric currents. The defects have led to the introduction in electric lighting of artificial carbon, composed of powdered coke and lampblack, formed into a paste with molasses and gum. This material is pressed into cylindrical forms, and subjected for a given time to a high temperature in a special furnace. The manufacture of these carbon pencils has attained great perfection in the hands of Carre, of Paris, and they can be made into perfectly straight and cylindrical forms of from two to sixteen millimetres in diameter and half a metre in length.—*Nature*.

The Gray Telephone Patents.

The Western Union Telegraph Co. announced last week that "The Patent Office, on the 28th of January, re-issued to the assignees of Elisha Gray a patent for telephones, first granted to him July 27, 1875, which is earlier in date than any patent for telephones issued to Professor Bell. This re-issue is claimed to cover the fundamental principle, and the substantial mechanism of the Bell telephone, and of all other telephones in use. It is controlled by the American Speaking Telephone Company, a corporation organized in the interest of Mr. Gray, and of the Gold and Stock and Western Union Telegraph Companies, and it is said to be their intention to enforce it immediately, against all persons making or using other telephones than those of the American Speaking Telephone Company."

When it is found, after a patent has been issued, that a new invention or discovery, mentioned in the specification, but not claimed, is valuable, and it is desired to include it in the claim, another patent is granted, called a re-issue. In this case Mr. Gray includes the diaphragm in his claim.

The Bell Telephone Company says that the patent re-issued to Mr. Gray does not, as stated, cover the fundamental principle or the substantial mechanism of the Speaking Telephone, but it is for "an apparatus for transmitting musical impressions or sounds telegraphically," and upon an entirely different principle. It does not, the Bell Company claims, interfere in any manner with the Bell patents. A preliminary hearing in the suit by the Bell Telephone Company against the American Speaking Telephone Company was had at Boston last week.

A Plug's Defense.

I have remained silent until now, hoping that some champion would take up his pen in our defense. But this proving fallacious, I am constrained to attempt the task myself. Friend Werner has created a false impression that we plugs are the bane of telegraphic life. Now I protest against this. There is not a more innocent being on the face of the earth than this same much-maligned plug. It would disarm the most prejudiced if they could but witness the gusto of a master plug in recalling some of his exploits. Against this inoffensive class Werner takes the role of an electrical Don Quixote in behalf of his fellow operators. Against whom, pray, would he level his shaft of wit if we plugs had no existence? Evidently his light would have been hidden under a bushel. Therefore he should be grateful instead of making these virulent attacks upon us. If he still persists, we shall be obliged to send a member of our fraternity to work on the same line with him. Revenge is sweet; let him beware. Possibly he is suffering for refusing to receive the leather medal so kindly offered him. If so, we will make good his loss by sending him one with the motto of our fraternity stamped upon it: "Rather live a plug than die an operator." My sole ambition is to become a superior plug, and I do not wish to be diverted from my object by Werner's ridicule. We are as yet not strong enough to combat the prejudices of those arrayed against us, but, standing boldly for our motto, we say: Let us have peace or—I say no more.

UNUM.

Dashes Here and There.

The usefulness of the electric light in foggy or other humid obscurities of the atmosphere has been demonstrated in Paris. During a very dark snow storm last month the lamps in the Avenue de l'Opera were lighted, and the reflection upon the snowflakes entirely dissipated the shadows so as to give the appearance of sunshine and snow at the same moment.

The *Telegraphic Journal* says that at a recent exhibition of the phonograph in a country town in England, the well known lines of Milton's *L'Allegro*—

"But come thou Goddess fair and free,
In heaven y-clept Euphrosyne,"

were rendered by that incorrigible instrument as

"But come thou Goddess fair and free,
In heaven she crept, and froze her knee,"

The first biography in the *Philadelphia Progress* was of Louis A. Godey. Then Godey died. It eulogized Bayard Taylor. Then he died. Next it wrote up Caleb Cushing, and instantly Cushing died. It embellished its frontispiece with Edison's picture, and at once the inventor, who never before

knew what it was to be ill, fell deadly sick, and only recovered when Forney promised not to write anything about him. If Mr. Forney will confine his fatal biographies to Philadelphia men he will confer a great blessing on society in general.—*Detroit Free Press.*

Professors Thomson and Houston, of Philadelphia, are still experimenting on their small electric lights, and speak confidently of ultimate success. There are various details yet to be perfected. The lamp was shown at the last meeting of the Franklin Institute, and worked very well. Professor Thomson, in a recent lecture on electric lights in general, showed a new light, devised by Professor Houston and himself, intended to light large areas. The improvement claimed lies in the uniform consumption of the carbon points. In most electric lights the flame flickers, burning steadily for a few minutes, and then being almost extinguished. The lamp shown by Professor Thomson, however, burned steadily, and gave a brilliant white light. The carbons were inclosed in an opal glass shade, and the light, while very powerful, was not annoying to the eyes. Although the problem of the day is the production of small electric lights for use in dwellings, the large light of Professors Houston and Thomson is said to be a decided improvement on those hitherto exhibited. The uniform consumption of the carbons is secured by the use of an electromagnet in the lower part of the lamp. This plan is also used in other electric lights, but Professors Thomson and Houston appear to have attained better results.

SENATOR JONES' telegraph bill was reached by the Senate on Monday, Feb. 10, and passed over, Senator Matthews giving notice that he would call it up on Friday. Persons interested in the bill, it was announced, would be given a hearing on Thursday. The vital features of the bill are incorporated in the Army Appropriation Bill, which, as reported in another part of this issue, passed the House by an overwhelming majority. The chief opposition to the bill comes from the Western Union Telegraph Company, which transacts business for the public over nearly all the railroad telegraph lines in the country, and which now has no active rival. If this bill should pass, or if the amendment to the Army bill should be agreed to by the Senate, it would put it into the power of a few of the great railroad companies to organize an opposition to the Western Union Co., and to take from it some of its most important lines. This, naturally enough, the company does not want, and is making strenuous efforts to prevent. Dr. Green's address before the Committee on Railroads, on Thursday, in opposition to the bill, will be found in this issue.

Echoes from 197.

The Misses Lowell and Nichols are in Norwich, Conn., on a short vacation.

Miss Tillie Wood has gone West on a six months vacation, for the benefit of her health.

Alden A. Smith and ex-Chief Lawson have been transferred from the day to the night service.

John White Kelly, an ex-operator, has opened a store at 1,417 Broadway, with articles pertaining to church and clerical use.

Chief Operator Thomas G. Kennedy, of the night force, is in Clyde, N. Y., having been called thither by the serious illness of his infant son.

Matthew Galvin, of 575 Broadway, is a young man of considerable address. He envelops in a dress of great beauty and neatness about 300 a day.

It is rumored that George Merrifield is a loser by the latest game between Slosson and Schaefer, he (George) having backed Slosson heavily. But, sir! in Toronto—

Miss Sykes has returned after a week's sojourn at Sandy Hook. Miss Dailey is away on vacation, and Mr. D. R. Lowner is chief of the ladies' department during her absence. Miss Minnie Frazee works the "X. F." Brooklyn wire. Millie Lederer signs "M. D."

He only broke her once—every other word—and at last she mildly suggested that he would be a much more successful operator in Wal. Street. He sadly replied: "You are like a ship going to destruction on the rocks, there are a great many 'breakers' ahead."

Mr. Ed Mesler, of 791 Broadway, advises every man on the City Line to carry a few good rules with him. He may be called upon at any moment for an explanation of Rule 15.

Captain J. C. Tirrell, of Madison Square office, A. D. T. Co., distinguished himself signally at the fire at the Union Club one day last week. He wears his new honors with much dignity.

George Cumming has been recommended to imbibe anti-fat in order to restrain his tendency to obesity. He figures among the water-color artists at the exhibition; his double-back-action-high-pressure-off-color-rectilinear-spectrum, is attracting considerable attention.

Judging from the following message of a recent date, our English cousins must be rather slow in the matter of placing telegraph machinery: "Valencia says ordinary route entirely down through to London via Llanfairpwllgwygyl, who is inserting duplex apparatus."

A certain gentleman on the City Line, who shall be nameless here, made himself conspicuous during the billiard tournament at Cooper Union by volunteering to do the work in the evening for nothing which a brother artist was receiving extra for, and he wasn't a young ambitious artist either.

H. W. Pope, Supt. A. D. T. Co., has a large number of claims (in the form of students) to the title of Professor. His boys are all operators. When a man on the City Line feels like taking an airing he simply calls the next boy in to take a seat at the desk, while he shoulders the delivery book. Fact.

Miss Cadiz has launched her bark upon the venturesome sea of connubial bliss with a gentleman of wealth for a partner. They go to the Continent for their tour. Cigar clerks and telegraph operators are now further in the shade than ever since this little episode. Give us a European tour or give us death.

Con McCarthy, chief of electro-motive force at 197 Broadway, died at his residence in Brooklyn on February 7th. The deceased was an old, efficient and reliable employe of the W. U. Company, and discharged his important duties in a thoroughly satisfactory manner. He was a favorite in the office, and his loss is much regretted.

During the hottest days of the fight between the A. and P. and W. U., all messages brought by the A. D. T. Co. to the latter were paid for at the rate of four cents each. The reconciliation has been effected long since, but this payment still continues, and amounts yearly to a sum sufficient to pay a handsome dividend. The Executive Committee might sit on this to some purpose.

A boy sent from 12 West 23d Street office to deliver a message at Bellevue Medical College, remained so long that another one was sent to investigate. It was necessary to send still another, and, on his return, the reason for delay given was, that the two former ones had both fainted, on witnessing a dissection, and had been put to bed for treatment. The witty man of the above office suggested that some one should be appointed to dissect the story, and see if it was not a feint on the part of the boys.

DEAR OPERATOR—I desire to express my indignation at the action of several of our first-class men who make a regular practice of borrowing THE OPERATOR. If they were too poor to buy it I would recommend their being placed on the free list, as every telegrapher should have it; but as I believe it to be innate stinginess, I make this little "kick" with a view to bracing them up to a sense of their duty. For their duty it certainly is to see that your subscription list never wanes. Your bold stand for liberty merits the admiration of every

TELEGRAPHICUS.

Mr. George Cumming, at present and for several years a member of the night force at 197, seems to follow somewhat in the footsteps of Professor Morse. He has a picture in the present collection of water-colors now on exhibition at the Academy of Design. It is called color-glow, and is described as a continuous, rectilinear, spectrum, drawn in water-colors. Represents the analysis of solar light, and is drawn wholly with fine straight lines, in liquid colors; presenting a forty-five pointed star of sixteen inches diameter, each point being, with a few exceptions, of a different shade. Each outer point is formed by twenty five straight lines, having a common focus at the circumference, and running to a central line at different angles. The whole figure contains 25 times 45, or 1,125 lines. 38 distinct tints are used—the lightest a canary yellow, the darkest a purple brown.

PERSONALS.

CLARK—Please send your address.—CHANCEY.

Mr. W. B. Rumble has been appointed manager at Dodge City, Kansas, assisted by Messrs. Montgomery & Lehr.

Mr. H. C. Barton and Mr. McL. Campbell, of Chicago, have been added to the W. U. force at Kansas City, Mo.

Mr. Charles E. Kern has been appointed Government telegraph operator at the Washington Navy Yard, via George W. Kern.

Mr. Willie A. Fenn has resigned his position of train dispatcher for the P. R. R., and been appointed manager of the American District and Telephone Exchange Company, at Buffalo, N. Y.

The engineers, conductors, brakemen, and telegraphers of the Chicago section of the I. C. R. R., presented their worthy dispatcher, Mr. Sam McDonald, with a Christmas present of a fine gold watch and chain, Swiss works.

Mr. E. J. Engel, formerly operator on the C., R. I. & P. R. R. at Marietta, and late operator on the C. & Q. R. R., has been promoted to be ticket agent at the crossing of the C., R. I. & P. and C., B. & Q. Railroads. His brother operators all wish him success.

Jimmie Hoge has been manager of W. U. office at Zanesville, O., for twenty-four years. He is old, but can't be rushed. "Billy" Rains assists him, with the help of a couple of plugs. Frank Thirkield manages the A. and P., and Frank Holstead as all night man.

Mr. Edison is still busily engaged upon his electric light. The only difficulty to overcome is the corrosion of the platinum burners by chemical action, owing to certain imperfections in a part of the lamp. He says that if he can remove these imperfections, the light is perfect.

As Howard Holtzman, telegraph operator and railroad ticket agent at Warrenton Junction, Va., on the Virginia Midland Railroad, was returning home from his office between 11 and 12 o'clock on the night of February 6th, he was waylaid, murdered and robbed of his watch, chain, and money.

INFORMATION WANTED.—Any person knowing the present address of Charles H. Hubbard, a former operator of C. R. R. of N. J., at Phillipsburg, N. J., in 1878, will confer a great favor by sending his address where a letter will reach him from one who befriended him at that time. Please address, W. W. Ketcham, Brooklyn, N. Y.

On the evening of January 31st occurred the first annual ball of the New Haven Telegraphers. This being their first attempt, some apprehension was felt as to the success of their (to them) hazardous undertaking. But, thanks to the energy of those having it in charge, ably assisted by the other members of the profession in the city—it proved to be a success in every respect. Members of the fraternity were present from Hartford, Bridgeport, New London, and other places. This attempt will probably be followed next year by another on a more extensive scale.

The sounding of a burglar alarm Friday night, February 7th, gave warning to the office of the American Telegraph Company, at No. 107 Broadway, that the cigar factory of Heyman Brothers & Lowenstein, at Mott Street and Chatham Square, had been forcibly entered. Officer O'Donnell, of the American District Telegraph Company, at once proceeded to the premises. He discovered that the elevator, which had been run up to the second floor, was lowered to the Mott Street entrance of the building, and was freighted with goods, which the burglars were obliged to leave behind.

DETROIT, LANSING & NORTHERN ITEMS.—Miss Fannie McNevin, the affable operator at Leroy, was married January 27th to John A. Phillips, agent and operator at Gaylord, on the Mackinac Division Mich. Cent. R. R. The marriage took place at the residence of the bride's father in Leroy. Dave Shaver, agent and operator at Maple Valley, has been relieved by Mr. E. T. Horton. Ed F. Crooks still keeps the boys busy at Belding, while Glen Barnard whoops 'em up at Colwell. Frank Townsend, at Howell, says there's nothing can beat that new wife of his, and Chapman smiles through the window at Waukegan. "X. A."

Mr. Geo. W. Rue, for several years the day operator at the B. and O. R. R. office, Mount Vernon, O., and later night man at same place, resigned Feb. 1st to accept a position as fireman on the Pan Handle

route. His object in making this change was more recreation, and not so much night work. Georgie's smiling countenance will be greatly missed by the telegraphers of Mount Vernon, as well as by the female fraternity, to whose magnets his armature was ever sure to respond. He was relieved by the "veteran brass knocker," Joe Hawey, who lately came all the way from Texas via New Orleans, and says that that section is entirely overrun with operators.

W. C. Buell, who died at Troy, N. Y., is claimed to be the first man who ever sent a telegraphic message by sound. When the Albany office had been moved to the Delavan House, on the 1st of May, 1847, Mr. Carter undertook to receive a message from Utica, but the paper twisted, and as he with difficulty undertook to translate the message, W. C. Buell, who was sitting near, said: "I think Utica asked if the 9 o'clock train had arrived," scarcely knowing how the knowledge came to him. Carter was much astonished to find it correct, and Mr. Ten Eyck of the *Journal*, who was present, made it the subject of an article so interesting that it was extensively copied even in Europe.

Since the publication of my letter which appeared in THE OPERATOR of Jan. 15th, concerning operators and train dispatchers on the Eastern Division of the N. Y. L. E. & W. (Erie) R. R., the night operator at that office has been dismissed for being caught sleeping on duty, while the dispatcher who was working with him, and who was discovered at the same time sound asleep, escaped, as far as I am able to learn, without even a reprimand. Be it remembered, that the operator who was thus so severely dealt with was compelled to work twelve hours out of twenty-four, while the dispatcher had only to work eight. This statement of facts needs no comment, but it does seem passing strange that Supt. Holmes would permit such a manifest injustice right under his very nose. OPERATOR.

ST. JOSEPH, MICH.—Miss Bertie Knowles has been appointed ticket agent and operator for the C. and M. L. S. Railway in this city. "Professor" Glass is still on night duty. Dolph does the W. U. work at the Park Hotel. Baldrey, the genial agent, who is somewhat of an operator, still continues the manufacture of plugs. Messrs. Waring and Gilbert do the train dispatching at Holland, under Fred O. Nye, Superintendent Telegraph. Mr. Nye has won many friends by his kindness toward his employees. Mr. Ed Elmore is still in the general office at Muskegon. Mr. Geo. Morrison, the old-timer, is ticket agent and operator at Stevensville. Mr. A. E. Morrison, formerly of Council Bluffs, Iowa, has been appointed manager of the new office at Troy. "Jimmy" is a well known telegrapher.

WOLVERINE.

We learn from a Washington letter that James A. Swift, formerly operator in the Washington office of the W. U. Company, but recently electrician at the Storm Signal Bureau, was, on Christmas morning last, surprised to find that he had become an enlisted private soldier. Ere noon, however, he wore a sergeant's chevrons, but still he knew not why; nor did he learn until later in the day, when, as the nation's recognition for long and faithful service in the battles with the elements, he received from the hands of President Hayes, and with encouraging words, a commission as lieutenant in the Signal Corps of the United States Army. Lieut. Swift is now stationed at Fort Whipple, Va. We congratulate him on his Christmas gift, and hope that each return of that merry festival day will bring him a new surprise to his fame and glory.

The *Popular Science Monthly* for February publishes a life of Elisha Gray, by George B. Prescott, from which we learn that Mr. Gray is in his 44th year, having been born at Barnesville, Belmont County, Ohio, August 2, 1835. As a boy he was much interested in the phenomena of nature, and at an early age constructed a Morse register, principally of wood, which, Mr. Prescott says, worked with perfect success. He served a year as apprentice to a blacksmith, but finding the work too hard, learned the carpenter, joiner, and boatbuilding business. After that he entered college, working a portion of the day to earn enough to meet his expenses. His career as a professional electrician and inventor dates from the year 1865. His first patent was granted October 1st, 1867. Since then he has obtained about forty patents in this country and thirty in Europe. Thirty of the former and twenty-five of the latter relate to the telephone.

BULL IN A TELEGRAPH OFFICE.—A forbidding visitor entered my sanctum yesterday. While crossing the street to deliver a message an enormous

bull entered my kitchen, and after upsetting pans, kettles, and other culinary utensils, passed into my bedroom, thence to my telegraph office. That apartment, however, being too small for his highness, he barred the door with his huge body, and seemed quite interested in the press report passing over the wire, but bellowed loudly as the obituary notice of Caleb Cushing was reported. I caught him in the act of wiping his eyes on my best Turkish towel, for which foul proceeding I chastised him. The readers of your valuable journal must admit that this is the greatest bull ever existing in any office without damage to the company. The poor fellow broke on my return. I fear I compounded pitchforks too fast for him, as he did not wait to check me or give me O. K.

E. H. FLYNN, Custer City, Dakota.

Mr. Drane, who had charge of the telegraph office here, took his departure a few days since, for the purpose, it is supposed, of paying some New Year's calls. Unfortunately, he forgot to leave about \$200 belonging to the company and \$60 of the Western Union's funds behind when he left, which fact becoming known, his employers have been diligently telegraphing around in hopes of discovering Mr. Drane's whereabouts. *Ad interim*, Mr. Ham, of Georgetown, will take charge of the office.—*Belton Journal*.

Drane will be remembered by readers of THE OPERATOR throughout Texas as the man who had charge of that plug factory at Belton, and is the author of the advertisement in the *Belton Journal* proposing, for and in consideration of \$50 each, to learn plugs and secure them \$75 and \$100 situations. Drane is from Mississippi, and has worked on the Mobile & Ohio R. R. Having personally known him for many years, I can safely say that he is addicted to the plug manufacturing business and that of carelessly handling other people's money. We would like to see him meet justice at the hands of all operators, and see him handled through your columns without gloves. "K."

TORONTO DOMINION TEL. NOTES.—The Dominion Tel. Co. has recently lost one of its most efficient men by the resignation of Mr. S. E. Gibbs, for several years chief operator in the general office. The boys are very sorry to lose him; they say he was the best "old man" they ever worked under. Mr. J. H. Nielson, formerly assistant chief, is now acting chief, and will no doubt get a permanent appointment, as he is in every way capable of filling the position. "Fatty" Barber is immense in the role of assistant chief. Mr. Fred Robertson, our "Nast," leaves telegraphing to study engineering. Fred is a genius in his way, and can be depended upon to make his mark every time he gets a chance. "Pius Bill" Manners has abandoned street preaching for the present, and now takes a sit with the Dominion. The festive register comes to the surface occasionally in "this Canada of ours," as may be inferred from the following remark by a rural artist: "Pls I; my piper is out." KCMOF.

INTERCOLONIAL RAILWAY.—The Intercolonial Railway, which connects the lower and upper Provinces of the Dominion, employs a large number of operators, many of them ranking high in their profession. The Northern Division is under the supervision of Assist. Supt. A. Busby, a gentleman respected and admired by every employé under him. He is ably seconded by Dispatchers McCarthy, Crockett, and the genial Charlie Bell, all capital officers and good telegraphers. Among the best station operators may be mentioned Mr. N. W. Freeze, who holds his own in unlimited wit and general affability with any one on the road. The adjoining Division is managed by Mr. J. E. Price as assistant superintendent, and Dispatchers Harris, Price, and Harding, the latter a splendid operator, and by some odds our handsomest man. Mr. Price is much esteemed by those under him, and is a rising officer. Conspicuous among the stationmasters on this Division stands Mr. W. R. Payne, of Bathurst, a very popular gentleman and a cultivated operator. The head office of the Montreal Tel. Co. is at Campbellton, and is managed by R. McCord, with J. McKendrick, G. F. Maguire, and the irrepressible Jack Goodfellow, as operators—nice boys, all of them, and ornaments to the profession. P. LUGG, JR.

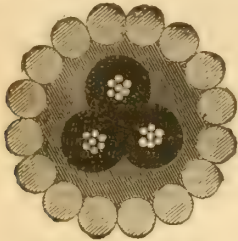
MARRIAGES.

HOHL—HOOPER.—January 28th, at Fremont, Neb., by the Rev. J. W. Osborne, Mr. Leonard Hohl, train dispatcher U. P. R. R., Omaha, to Miss Lizzie Hooper, of Fremont.

W. J. JOHNSTON, Publisher,
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of the BISHOP GUTTA-PERCHA WORKS, begs leave to announce the acquisition of the exclusive right within the United States and the Territories thereof, to manufacture and sell Gutta-Percha Covered Wires of every description, under Letters Patent of the United States (No. 65,019), dated May 21, 1867, granted to Geo. B. Simpson, now owned by Clinton G. Colgate, for the use of Gutta Percha as a covering or insulator of wires for atmospheric or submarine telegraphic communications or for other electrical purposes, the validity of said Patent having been established by a decree made by the Circuit Court of the United States, held in the City of New York, dated Dec. 8, 1878.

The *Insulating Properties of Gutta-Percha* for Submarine Telegraphic Cables have been thoroughly tested for the past thirty years, and for subterranean purposes after many tests in Europe, and a continuous use in this country for seventeen years, its superiority is conceded over all other insulating materials and compounds.

Submarine Telegraph Cables, 50 varieties, one to ten conductors.

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Lead Covered Telegraph Cables, one to seven conductors.

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Fuse, Leading and Connecting Wires for submarine and mining purposes.

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Burglar Alarm, Call Bell and Annunciator Wires, double cotton wrapped and saturated with any preparation.

Magnet Wires, copper and German-silver cotton, silk and fibre covered.

Copper Wires, specially covered for electrical lightning purposes.

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Instrument and Office Wires, Flexible Cords, Annunciator and Burglar Alarm Wire, Elevator Cables.

All Wire used is thoroughly tested for conductivity, thereby insuring purity and regularity of resistance.

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Bell Telephone Company.

This Company was the first to introduce the Telephone. It furnishes instruments equal, if not superior, to any other, and is establishing Agencies in all parts of the United States.

It is the assignee and owner of all the patents granted ALEX. GRAHAM BELL, and these cover all forms of Telephone hitherto devised. Manufacturers and users of other Telephones are infringers upon the rights and property of this Company, and will be held responsible in damages.

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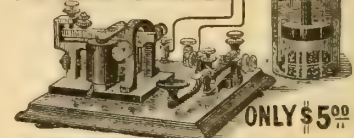
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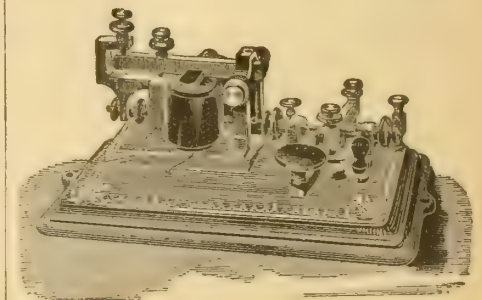
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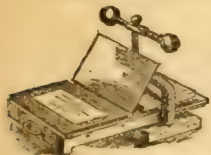
Mr. Reid has made a great work—great in size and great in the fidelity of its research, and the industry and skill of its author. It is what it purports to be—an exhaustive history of the telegraph in America, from its first rude beginning to its present gigantic developments. The minutest details are given and the services of the pioneers are fitly commemorated both the science and the history of telegraphy are clearly set forth. Biographies are included of all who have been prominently identified with the telegraph, and there is a wealth of information upon every conceivable branch of the subject.—*Rochester Democrat.*

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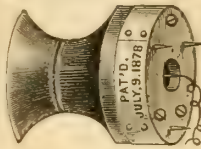
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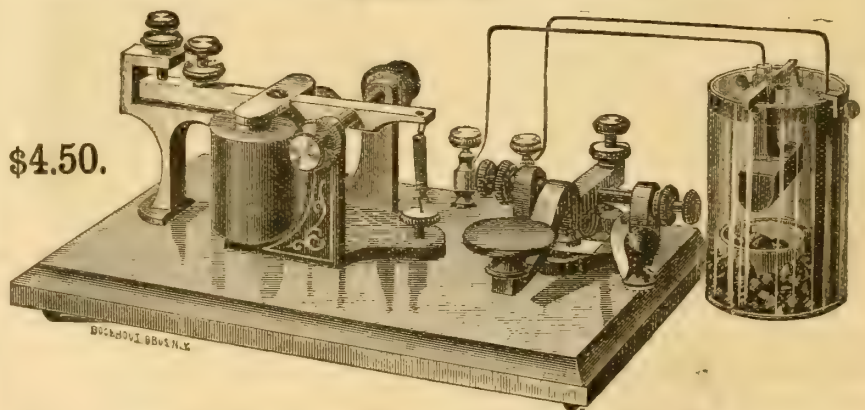
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THE OPERATOR

A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY

March 1st, 1879.

Volume X.

Whole No. 121.

Song of Electricity.

What a wonderful power in the world am I!
I flourish from pole to pole,
As far as the wild swift storm winds fly,
Or the ocean billows roll.
The sea-gull sweeps o'er the surging waves
All crested with foamy white,
While the storm-king loud in his anger raves—
But I pass them in swifter flight.

All over creation my power I show,
In every land and clime,
From the Arctic deserts of ice and snow,
Where King Winter reigns sublime,
To India's land, where the Ganges flows
Through her beautiful flowery plains,
Where the glorious sunbeams resplendent glow,
And summer forever reigns.

When the thunder rolls with its terrible sound,
As if rending the heavens in twain,
And the fire bolts shoot to the quaking ground,
Through the torrents of drenching rain;
When the livid lightning's terrific flash
Gleams out through the darkened air,
Through the blinding glare and the thunder crash,
In my glory and pride I'm there.

All the human race, over sea and land,
Beholds my most wondrous power;
The negro in Africa's wilds of sand,
Observes me each day and hour,
The savage who roams through the woodland dells,
Like the eagle untamed and free,
The Mongol, Malay, and the tribes that dwell
In the isles of the southern sea.

But my greatest work I perform for man
By the aid of the telegraph wire;
The earth to its furthestmost limits I span
With my flying electric fire.
I speed more swift than the eagle's flight,
More swift than the winds of Heaven,
As swift as the flash of electric light
When the dark storm-clouds are riven.

In every country and every clime
Where civilized man holds sway,
Is seen the familiar telegraph line,
Stretching away and away
Over pleasant meadows and lofty hills,
Over verdant beautiful vales,
Over rocky gorges and mountain rills,
Through rivers and forest dales.

No obstacle stops my most glorious flight
Through this wide spreading world of ours;
The ocean waves in their angry might
They cannot impede my power.
My wires are laid mid its gloomy caves,
Mid its coral beds gleaming white,
Where the fishes sport, and the tempest raves
Above, in its angry might.

I carry the news o'er this wide, wide earth,
More swift than the lightning's ray,
To whatever events the world gives birth,
Thousands of miles away,
In a few short moments the news is borne
Over limitless land and sea,
Ere the self same news is completely known
In its place of nativity.

Whatever events in the world transpires,
The news I immediately bear—
Eruptions, earthquakes, destructive fires,
And everything strange and rare.
Business telegrams of every kind,
Messages of joyful breath,
The glad news of fond hearts combined,
Or the sorrowful news of death.

The railway train in its rushing flight,
As it sweeps o'er the iron road,
Bearing along with a giant's might
A great and a precious load
Of human beings and costly goods,
The half of a city's wealth,
To travel with safety they never could
Without my electric help.

And in war—how it grieves me the tale to tell—
I am used, mid the cannons roar,
The whistling bullets and bursting shells,
While the earth runs red with gore;
Mid the cavalry charge and the bayonets' clash,
When the foemen meet in the fray,
And the news of death to dear friends I flash,
Thousands of miles away.

Mid the realms of cloudland I dwell on high,
And I know neither curb or rein;
As wild and untamed as the wind was I
Until bound by the telegraph chain
By a mighty hand, who my frantic flights
Did often with wonder scan,
He brought me to earth and I now delight
In performing my work for man.

Hurrah! for great Franklin, the master mind
Who taught me the way to earth—
And Morse, who my limbs did in fetters bind,
To prove to mankind my worth!
The world in its gratitude ever will praise
Those great and illustrious names,
Enshrined in the poet's undying lays,
And enrolled in the records of fame.
J. J. McDONALD.

Existing Relations Between Railways and the Western Union Telegraph Co.

The bill pending in Congress designed to permit railroad companies to transact commercial business over their telegraph lines, and the apparent contest over the measure by the parties in interest, has turned public attention to the subject. The design of this article is to show what the existing relation is between the Western Union Telegraph Company and the majority of the railway companies of the country, and to trace its growth and value. Fortunately the origin of the telegraph is of so recent a date that the subject is not a difficult one, and the railroad itself is so modern as to require little research to investigate. Railroads are built in the most direct manner through sections of the country containing the greatest number of people, and they draw population; hence telegraph lines follow the same routes. Railroads are the best means for transporting the materials used in the construction of telegraph lines, and furnish the quickest passage to points of interruption when repairs are required, which is important in a business where time constitutes the chief element. The value of the route is, however, dependent upon the good will of the railroad company, for to receive the full benefit special concessions are necessary. To secure the most economic results, trains must be run at slow speed when distributing telegraph material, track facilities for hand-car use must be enjoyed, and repairers must be put off between stations in cases of interruptions. An attempt to force the right of way for a telegraph line on a railroad which is hostile, and to maintain it would be found unprofitable, as the ordinary highway possesses greater advantages under such circumstances. The amount of space occupied by a telegraph line along a railroad is a peculiarity. Ground room is easily provided for a telegraph line on each side of a railroad. The wires being above the railroad company's structures, are not a hindrance. It is evident, however, that the promiscuous construction of telegraph lines along the right of way of railroads is an impossibility. Two lines of poles on the same side of a railroad are a great inconvenience, and the annoyance increases with multiple ratio. If several telegraph companies are to be accommodated on any railroad, it can only be done by the railroad company's owning the poles and leasing wire space. One telegraph company possessing the poles would not be likely to furnish satisfactory facilities to competing interests. The increasing demand for track room, and the multiplication of the number of telegraph wires, makes it imperative that the railroad companies should have the absolute control of their right of way. The capacity of public highways for the accommodation of telegraph lines is also limited, and this is especially so in cities and towns where the streets are lined with shade trees, buildings, and other structures. The erection of telegraph lines over private lands when generally improved is impracticable. Not only is space required for the poles, but teams must pass, and the resulting injury to fences and crops would not be tolerated. To condemn the right of way exclusively for a telegraph line of sufficient width to properly construct and maintain it, would involve an investment too large for present consideration. Such a right of way would have to be made a practicable road which could be passed over with speed at all times.

It is a fact well understood that telegraph lines

can be worked very economically, so far as the cost of operators is concerned, in conjunction with railroads. Little time is required to do the telegraphing at a small town, and the operator is free to perform many other duties in the service of the road. This enables business to be collected at a large number of small places where offices could not otherwise be maintained. A great advantage resulting from these small offices is the facilities which they afford for locating troubles, and for promptness in making repairs, thereby adding to the general efficiency of the lines.

The value of the unrestricted use of a telegraph system along the line of its own road is of the utmost importance to any railway company. Without this it would be impossible to operate the leading railroads as they are now organized. The telegraph is the nerve system which brings instant information to the directing mind of the condition of things, and enables the concentration of any needed force at the right time and place. By it trains are moved, cars distributed, traffic regulated, and many details kept fully under control. The efficiency of its telegraph system is therefore of first importance to a railroad company, and parsimony in regard to its arrangements and administration is ill advised and cannot be afforded.

In the early history of the telegraph the business was fully protected by patents which came into the possession of regularly organized companies. The necessities of these telegraph companies and of the railroad companies naturally drew them together, and resulted in the alliance which constitutes the principal basis of the present valuation of the Western Union Telegraph Company. It matters very little what the precise terms of these contracts were so long as the following points were covered: 1st, The telegraph companies acquired the exclusive right of way to construct and maintain telegraph lines over the right of way of the railroad companies. 2d, The telegraph companies acquired free transportation for their servants and materials over the roads for the purpose of construction, maintenance, and service. 3d, The title of the property was vested in the telegraph company. 4th, The telegraph company retained full control of the rates and conditions upon which the commercial business should be transacted. 5th, The railroad companies acquired the full right to use the patents, lines, instruments, and facilities of the telegraph companies on their road with slight limitations for the transaction of railroad business. 6th, The railroads acquired the right to do a limited amount of free telegraphing off from the line of their road. 7th, The bonus or proportion of first cost of the line paid by the railroad companies to the telegraph companies; the division of the local receipts of the telegraph company on the railroads with the railroad company; the division of the operating expense at joint offices; the division of the cost of material for repairs; the payment for wires and instruments designed for the exclusive use of either party, and the provisions for joint control varied in different instances, but the lines were always recognized as parts of the system of the telegraph company. 8th, The contracts were made in perpetuity, although they sometimes contained provisions for modification at the end of a term of years if specially burdensome to either party, but the fundamental principles of the contract are not changeable.

Undoubtedly the enormous development of the telegraph business has surpassed expectation, and had this been foreseen the railroad companies would have endeavored to secure better bargains, but it is fair to suppose that the contracts were based upon equity at the time, and it will not be denied that the mutual benefits have been great. The railway officials will be slow to admit that they were outwitted by the telegraphic managers. The grade of talent used in railroad manipulations prohibits the conclusion that they were either knaves or fools in their telegraphic negotiations.

Since the original telegraphic patents have expired, it is natural to inquire why the numerous railroads built should also make substantially the old contract with the telegraph company, and the answers are: 1st, That it is the fashion to make such contracts, and railroad managers are no more likely than other people to fly in the face of established custom. 2d, New roads when built are usually sadly in need of money by the time the telegraph question is reached, and a concession by the telegraph company on the first cost of the line, which must be had for immediate economic results, secures the future. 3d, An independent railroad line, built on the outskirts of the population and tapped at all important points by a powerful com-

petition with cheap rates, is not a profitable investment.

There are undoubtedly a few leading railroads so favorably situated that they could operate independent telegraph lines with profit, and a combination of several such would make a powerful competitor. The legality of the contracts between the telegraph and railroad companies have frequently been sustained, and it is doubtful if future legislation can alter them. Nevertheless, if it can be done the Western Union Telegraph Company ought not to complain. It has never failed to hurl its enormous power remorselessly against any competitor within legal limits. It has thereby forfeited any claim upon the public for sympathy or special support. The popular heart is against arbitrary control and monopoly, and sooner or later the whirlwind of public opinion will vent itself in the postal telegraph or such legislation as will make competition in telegraphy a possibility. At the present time, in the writer's opinion, it is not to be sought in the proposed scheme for Congressional legislation. Telegraphy is one of the eve of important changes in methods of construction and transaction of business. It is not improbable that the railroad contracts may become a heavy burden instead of a source of strength. Telegraph lines are soon to go under ground, and, when put down in a substantial manner, the need for rapid transit and frequent repairs will be done away. The introduction of the telephone on extended lines will enable any intelligent person to operate the telegraph and open the way for general economic arrangements of a permanent and superior nature. There need be no hamlet so small as to do without the telegraph for the lack of skill to operate it, and at a cost which will call for no self-denial in other things to fully realize its benefits.

GEO. H. BLISS.

The Jones Telegraph Bill.

We last issue gave the address of Dr. Norvin Green before the Senate Committee on Railroads in opposition to the Jones bill now pending in Congress. Below will be found a synopsis of the other arguments, for and against the measure, made before the Committee since that time:

J. C. Reiff, of the American Automatic Telegraph Company, on Friday, February 14th, spoke for twenty minutes in favor of the proposed bill. He said that this is not a question of the Government absorbing and controlling the telegraph lines under a postal telegraph system, but simply of the extension of existing laws to make Mr. A. as good as Mr. B. Dr. Green had stated that, aside from the contracts which the Western Union had with railroad companies, few of them have any telegraph lines of their own. The Baltimore and Ohio might have some, although he thought they might belong to the Western Union; but, in any event, that company had more than any other line, and he did not suppose that nineteen out of every twenty railroads had a single mile of wire.

Mr. Reiff said he had a great respect for the Hon. Mr. Orton, the late president of the Western Union. Mr. Orton generally knew what he talked about, and generally stated, especially when under oath, what was correct. In the second session of the XLII Congress, speaking before a committee of the House in regard to press contracts, Mr. Orton said that certain of those contracts then existing contained a clause "that they will not in any way encourage or support any opposition or competing telegraph company." On page 15 of the same report Mr. Orton said: "Probably for every mile of telegraph built by us a mile is built at the cost of the railroad company." These quotations were not in exact consonance with the statements of Dr. Green. Again, Mr. Orton had said: "The railroads have special wires in some cases, and have an interest or a sort of proprietorship in the line in so far as it can be used for the convenience of the railway, and yet all its revenues from commercial business accrue to the telegraph company." In response to what Dr. Green had said, that some railroads have a few miles of wire, but no poles, he might respond that the Pennsylvania Railroad Company owns a line of poles from New York to Chicago (via Columbus, Ohio), and one from Philadelphia to Erie, the entire length of the State; also from Washington to Canandaigua, N. Y., over the Northern Central Railroad, and he said he believed that it has another line to Cincinnati and St. Louis. All the Pacific railroads, aided or chartered by Congress, own their own lines, and, by their charters, they are themselves telegraph companies, and are obliged to operate

their lines for public business in the same manner as their railways. The Acts of 1862 and 1864 actually provide a penalty of \$100 for every refusal to transmit a telegram, and yet practically the Western Union to-day claims to control them by direct contract or lease.

The Chairman asked Mr. Reiff to state what particular interest, if any, he had in the passage of the proposed bill. Mr. Reiff replied that the company he represented had spent \$500,000 in developing telegraphic improvements, and it proposed to unite with the various railroad companies to obtain the results of this expenditure. The company operated a line between Washington and New York, transmitting twenty words for 25 cents, and he undertook to make an alliance with the Atlantic and Pacific Telegraph Company as a nucleus by which the company hope to establish a firm opposition to the Western Union. Circumstances proved favorable and the concern became a very formidable opponent of the Western Union Company. It was not broken down, as all previous opposition had been, by the Western Union, but it became so formidable that the company absorbed it from necessity. That involved him in certain complications, and he believed the proposed bill offered opportunity for a new enterprise.

Mr. G. P. Lowrey, as counsel for the Western Union then made a long address upon the various legal points at issue. The bill, he said, was due to such people as his active and energetic friend Reiff, who, having desired to engage in the telegraph business and having tried it without success, thought the successful competitor all to blame, and being down in his luck, wished Congress to help him out. It was a system by which it was proposed to set up in business, not telegraph companies like Mr. Reiff's—because he had already every right and only lacked capital and the confidence of the public—but railroad companies. The objection to the bill was that it was treated as a regulation of commerce. It was not a regulation of commerce in its nature. It would give the shoe-maker the right to carry on the drug business. It would give to the railroad companies, which are the creatures of the State Legislatures, right to engage in a new kind of business never contemplated by the State and never contemplated by the stockholders. It was a political solecism, and a bold, unwarranted invasion of State sovereignty.

Mr. Lowrey continuing, said, in substance: There is no need of such legislation, but it is dangerous. Of course it will be understood that in a competition for the telegraphic business of the country, the railroads being in possession of the means of transporting material and supplies for construction and repairs, might, if so inclined, discriminate in a manner beyond the power of Congress to remedy it against their rivals in business, and thus eventually make it to the interest of the telegraph companies to surrender their lines to the railroad combination, so that there would be one combined railroad and telegraph monopoly, which could not be resisted. The bill should be entitled: A bill to enable railroad companies to perfect a complete monopoly in the telegraphic business.

The early days of the telegraph saw the business carried on by numerous companies in different States, some well and some ill managed. Experience demanded the consolidation of the business under one control, which has resulted in the perfect system now existing. This bill would seek to establish telegraph lines which might be advertised, like the present Pullman Palace Car line from Boston to Savannah, which is thought to be especially interesting because it passes over the roads of nineteen different corporations.

The uselessness of the proposed legislation is clearly shown by this, that railroad companies have not heretofore attempted to exercise the powers here sought to be granted, although it would be difficult to conceive who should prevent them except the Attorney-General of a State or a dissentient stockholder. The exercise of a right to commit an individual thus to enterprises not originally contemplated has been successfully resisted when the same power which created the corporation has sought to accomplish the enlargement of its original functions. How much more unfit is this under our system of divided powers when the federal Government makes this attempt.

The telegraph and railroad contracts of this country are peculiar. These contracts have often been brought under judicial consideration, and have been, as I believe, uniformly sustained. I quote from an opinion in an action between the Western Union Telegraph Company and the Atlantic and Pacific Telegraph Company and Missouri Pacific Railway

Company, defendants. "The plaintiffs claim an exclusive right to use the right of way for telegraphic purposes. The contract in question required the Western Union to pay the Pacific Railroad the cost of the telegraph line from Tipton to Boonville; to furnish all material, poles, batteries, wires, insulators and telegraph instruments necessary to keep the line in repair from St. Louis to Atchinson, Kansas; to furnish the same materials for the erection of new lines on such roads as the railroad company might thereafter lease, purchase, or construct; to give the railroad company the exclusive use of two wires along the line for its own business, and battery power to work the same; to give the railroad company the benefit of all the patents and telegraphic service of the value of \$2,500 annually on other lines of the telegraph company. In the discharge of these obligations the telegraph company has expended over \$100,000 since March, 1870. In return for this outlay of capital, the telegraph company undoubtedly looks for the faithful observance of the contract of 1870 by the Pacific Railroad and its successors for the whole period limited in the contract." This claim is sustained by the opinion of Judge Thayer, and yet this is one of the lines which, being erected upon the railroad company's line, would doubtless be claimed by it as its own, and which this bill, should it become a law, would enable them immediately to use in competition with the company which erected it, and which has given such a large consideration for an extensive privilege which the courts have sustained as being suitable and proper to be given under such circumstances and not offensive to any rule of public policy.

It was never supposed that the Act of 1866 gave to the Western Union Company anything it did not already possess, except the one single right which it was enabled to enforce in the Pensacola case; namely, to enter a State with its lines and overcome the resistance of the State Legislature. In that case Florida had passed a special act excluding all companies except one from two of the counties; but the Supreme Court ruled that it was incompetent for the Legislature to limit the commercial intercourse between those two counties.

In respect to the exclusive contracts which had been so much talked about, Mr. Lowrey was surprised that telegraph companies, if they wished, did not go on the same railroads over which these exclusive contracts were held. If the Western Union had the right side of the track, they could condemn the left, and so long as they did not interfere with nor inconvenience the other company they had a perfect right to place their poles there. The present contracts of the Western Union were a confused mass of stipulations impossible to state briefly, but they were all such as would commend themselves to business minds as proper to be entered into and beneficial to the public.

Gen. Butler then addressed the committee in favor of the bill. Mr. Lowrey, he said, had stated that no one asked for legislation on this subject. As an answer to that, he produced petitions from twenty-eight States and three Territories, signed by 50,000 persons, which were laid before the Judiciary Committee of the House in 1875 in favor of the Postal Telegraph bill. Another matter which was brought before that committee was the impossibility of contending against the power of the Western Union in different States, because of their immense power of corrupting the Legislatures. Now this was a pretty harsh statement, but it was no less a fact. A published report of Mr. William Orton, the late president of the company, showed that the franks issued to Government officials comprised a third of the entire business done by the company; with regard to which the report stated: "and the judicious use of complimentary franks among them has been the means of saving the company many times the money value of the services performed." This proved how difficult it would be to break down such a monopoly. When the Postal bill came up he and those with him thought that with such a power the subject could never be properly dealt with in Congress. They were afraid of the franks in the pockets of the members of Congress.

Senator Hanson—I would ask if railroads do not give passes to members of Congress?

General Butler—Oh! there are other corrupters of public morals, no doubt. I only point out this one, and I do not say that because the tower falls on them, they are the wickedest.

The General then went on to enumerate the advantages that would accrue to the general public from the passing of the bill. The Chairman asked if he knew the mileage of wires owned by the Western Union. The General replied that he was not prepared with statistics, but he thought the

company's outlay would not exceed \$7,000,000, or even \$5,000,000. He should put it at \$3,000,000.

Dr. Green—Since the union of the companies in 1876, more than \$17,000,000 has been put into it.

General Butler—Seventeen millions then, and the capital stock selling at \$45,000,000, kept up by the use of the \$17,000,000.

Dr. Green—That is an unfair comparison. I said since the union that much had been put in, and the capital stock is not stated correctly. There are \$35,000,000.

General Butler—I don't care. It is answering in degree, and not in kind. That telegraphing can be done cheaper is shown by the fact that whenever any rival line obtains any degree of success it is always bought up by the Western Union Company.

On Monday, February 17, Mr. J. W. Simonton, General Agent of the New York Associated Press, appeared before the Committee, and made a very clear and able statement in substance as follows:

I am invited to state the relations between the Western Union Telegraph Company, and the institution which has been designated "as that great monopoly, the Associated Press." The form of inquiry assumed that the Associated Press is a great monopoly: that it lives and thrives by favor or connivance of the Western Union Telegraph Company, and that its power may and ought to be broken by hostile legislation against the latter company. I propose to satisfy you, if I can, that the Associated Press is not a monopoly in any true sense, and that there is nothing about it which an intelligent legislator who understands the subject would desire to interfere with even if he had rightful power to do so. Should you fail to be satisfied of this, my aim will be to show still that any effort to destroy the Associated Press by assault upon the telegraph company must be abortive, and will be as illogical and unjust as the blind vengeance of the savage, who compasses the murder of an inoffensive company of whites to-day, because yesterday he was wronged by some lawless white ruffian who crossed his path.

Time forbids a statement in detail of the plan and methods of the Associated Press. Stated in the concrete, the organization is a combination of journalists, all over the country, to collect by their own agents, and to exchange with each other the current news of the day. It is not a corporation. It derives no element of success from special legislation, State or National.

The Associated Press is not a mercantile trader in news, in the sense that the house of Stewart & Co. is a dealer in dry goods. It is rather a co-operative association of business men, who, having common interests and common needs, work together for efficiency and economy in serving and supplying such interests and needs. It is true that journalists all over the country pay such sums of money as may be mutually agreed upon to the chief office of the organization, located in New York City; but these are in fact paid as equitable balances due by each other in settlement of the costs of maintaining the organization, and of bringing from foreign lands the required news. The basis of the whole system is the exchanging or swapping of home or domestic news. The press of Boston, Albany, Philadelphia, Chicago, St. Louis, New Orleans, or San Francisco, for instance, must each give to the common agent of the Association, in each of these cities, and for the use of all, the local news of that city and its suburbs. That is the first price which it pays to the organization for the right to receive the advantages of reciprocal reporting by the local press of all the other places. Then each pays what is agreed upon as its share of the cost of buying, collecting, and cabling to us the news of all the world outside of the United States—the salaries of paid agents wherever they are required, rents, cost of stationery, and the thousand incidental expenditures indispensable in so extended a business, amounting in the main office alone to half a million dollars per year, as well as the cost of telegraphic distribution of the news from the points of concentration to the numerous publishing points. The New York office is at once the general director, and the clearing house for this vast co-operative business of exchanging news.

This co-operative society of newspapers has become very large. It includes, in fact, at least 90 per cent. of all the newspapers in the country which are financially able to bear their share of the cost, and it includes many, especially in the Southern States, which could not get our reports at all if our daily compendium of the world's current history were not supplied to them—telegraph tolls and other charges all paid—for less than the lowest salary which would be accepted by an intelligent correspondent for writing a daily letter from any single point.

The Associated Press has no capital stock, and makes none but the Irish dividends of weekly assessments. Its working capital is the capitals of the seven New York City papers, whose publishers of necessity assume the chief organizing management and its responsibilities. Those who denounce it as a monopoly do so from misapprehension as to facts, assuming that anything which they cannot get a share in, on their own terms, must be a monopoly. Their reasoning is that of the radical communist or agrarian, whose theory is that a man should reap where he has not sown, and that fortunes already accumulated by skillful thrift, shall be forcibly divided among those who have not assisted in their accumulation. The charge of monopoly rests upon the single fact, that, here and there, some newspaper which did not share in the labor or risk of establishing the Associated Press, is not permitted to come in and share its facilities, now that the day of experiment and risk has passed. As well might they demand to force their way into a share of the already created business of any bank or dry goods house, or other mercantile establishment, which—like the Associated Press—had spent thirty-five years in perfecting its plans, securing its customers, and their confidence, and creating its opportunities for doing business with profit. The profit of the bank or mercantile business is in cash dividends—the profits of the Associated Press are in the use of the news which it collects. Now, as to the Western Union Telegraph Company. Our relations with it are simply those of carrier and customer. The Associated Press is not—and certainly has not been during the more than eleven years of my connection with it—under the least shadow of obligation, expressed or implied, to defend the Western Union Telegraph Company, or to stand by its interests in any other than the proper manner which I shall state hereafter in the course of my remarks. It is not pledged to antagonize any scheme in hostility to that company. There are no contracts or arrangements between the telegraph company and the Associated Press which we do not understand to be open to any and all other parties who do, or desire to do, a similar class of business, and upon the same terms. We receive some concessions in rates in return for conditions agreed upon—such as the agreement to do a large business instead of a petty one—and to do it all over Western Union wires—and to accept a certain proportion of it to be rendered during those hours when the better paying commercial business does not crowd. But there are no discriminations whatever in our favor; on the contrary one point of frequent difference between the two organizations is the fact that, according to our view, the only discriminations are against the Associated Press, and in favor of its poorer and weaker competitors. We hold that the company can have no just right to charge one rate for transmitting ten words for a customer having \$10,000 capital, and a higher rate for the same service to one who has \$100,000. And now we come to the practical question: Will the proposed legislation—whether right or wrong—impair the power of the Associated Press? The Associated Press has nothing to fear from either the postal telegraph or the railroad telegraph propositions. Its members are divided in opinion as to the political propriety and policy of such measures. But there is no difference among them as to the conviction that nothing else could make the Associated Press so secure as would the enactment of either. The assurance of exact and equal rates for all press matter, to all newspapers or news associations, we should have under Government control of the telegraph—because the rates would of necessity be uniform to all patrons—just as they are in the case of the mails.

Mr. Goodsell, of the New York *Graphic*, spoke February 18th on behalf of that paper and of the National Associated Press, criticising the relations between the New York Associated Press and the Western Union Telegraph Company, and complaining of the manner in which the National Associated Press has been treated by the Western Union. In response to a question, Mr. Goodsell said the bill now before the committee would open the way to a telegraph system so powerful as to be a guarantee against absorption, and to afford lower rates to the press.

Mr. Simonton replied, pointing out that Mr. Goodsell's statement showed the matter in controversy to be a business fight between rival private business organizations, with which Congress should have nothing whatever to do. He pointed out that newspapers are not missionary enterprises, but are published for profit, and that newspaper publishers cannot be expected to give to their competitors the use of their own facilities for doing business with

success. Replying to the statement that the Associated Press cut the Washington *Post* off from its reports in an improper manner, and that it had demanded the dismissal of Mr. Buell from that office, Mr. Simonton said that the *Post* had been cut off because, after months of expostulation, it persisted in violating a general regulation of the Associated Press.

Mr. Gardner G. Hubbard, President of the Bell Telephone Company, appeared before the committee February 19th, opposed the bill, and spoke in favor of the principles of a postal telegraph bill. He incidentally referred to the New York Associated Press, and said he thought its news ought to be distributed among newspapers on the principle of a common carrier.

Murat Halstead, of the Cincinnati *Commercial*, being present, said that the main object of the New York Associated Press was to prevent reckless competition among its own members. There are too many newspapers now, he said; they are daily dying out, and it is not good policy to encourage other swarms.

Senator Mitchell—What do you think of giving railroad companies the privilege of transmitting commercial messages?

Mr. Halstead—They would do well to mind their own business; the privilege would add to their influence in the politics of the country. I do not think the rule of railroads would benefit the country. The newspaper and telegraph business should, as far as possible, be let alone.

The argument was then closed, and on the following day, February 20th, the committee reported the following recommendation on the subject, to be incorporated in the Sundry Civil Appropriation bill:

That a commission of nine persons, composed of two Senators, to be appointed by the Vice-President; three members of the House of Representatives, to be appointed by the Speaker, and four citizens of the United States, not members of either House of Congress, to be appointed by the President of the United States, shall be created, on or before March 15, 1879, whose duty it shall be to make a thorough examination into, and investigation of the relations existing between the Western Union and other telegraph companies and the public as affecting inter-State commerce; also the relation between such telegraph company or companies and the New York Associated Press and other press associations of the country, National and local, in so far as the interests of the commerce of the country and the public generally are affected thereby, and to report to the President of the United States on or before the 1st day of December, 1879, the result of such investigations, together with the testimony taken, and also their recommendations as to what legislation, if any, is expedient and proper as affecting the business of telegraphic communication between States in the interest of the public generally; and of inter-State commerce in particular, and especially to report their conclusions and recommendations as to the constitutionality and policy of the creation by Congress of a postal telegraph system under the direction and control of the General Government, and as to the right and duty of Congress to regulate the rates of existing telegraph companies on inter-State lines, and to prevent such companies from according exclusive or exceptional privileges to the Press Associations, National and local, of the country.

The commission shall meet in Washington on or before April 1, 1879, and organize by selecting one of their number as president and another as secretary. The commission shall have power to sit at any place within the United States, issue subpoenas, send for persons and papers, administer oaths and take testimony. Each member shall receive his actual expenses while engaged in the service of the same, and those members who are not members of either House of Congress shall, for the time actually engaged in such service, receive the same per diem as the members of Congress.

His writing wasn't very good, he said, and so he thought he had better read it for us, and then began with:

"Doolittle here—"

"Well, sir, some days we do little, but—"

The sentence was not finished, for just then the man began to shake like a leaf, his eyes rolled about wildly, and, with his hair in great disorder, he rushed forth a raving lunatic, and the perpetrator is now wasting away with remorse. Let this be a warning.

THE OPERATOR A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY

W. J. JOHNSTON, - - - Publisher.

March 1st, 1879.

ELECTROPHOTY is what the practice of lighting by electricity is called.

WESTERN UNION STOCK is quoted at 105½, the price having gone up in the face of the passage of the Army Appropriation Amendment. A. & P. is selling at 37½.

WE would remind readers that copies of Mr. Reid's book, "The Telegraph in America," can be ordered through this office, on the following terms: One dollar with order, and one dollar a month until the price, \$5, is paid.

THE offices of the Bell Telephone Company and of the New England Telephone Company have been moved to Rooms 52, 53, and 54 of the Mutual Life Insurance Co.'s building, corner of Milk and Pearl streets, Boston. The Post Office address of both companies will hereafter be P. O. Box 3,466, Boston, Mass.

WE are glad to be able to present in this issue a very interesting article from the pen of Mr. George H. Bliss, explaining the nature of the contracts between railroads and the Western Union Telegraph Company. This subject is very *apropos* at this time in view of the recent action of Congress in regard to railroad and railway telegraph lines.

As will be seen from the now advertisement of Messrs. Holcomb & Co. in this issue, their acoustic telephones are now offered at \$3.50 a set. These telephones are patented, and users run no risk of prosecution by either of the telephone companies. No royalty of any kind is charged, the \$3.50 paying for the set outright.

NEW YORK is to have a World's Fair in 1889, the Centennial anniversary of the foundation of the Government. A great public meeting will be held in this city, April 30th next—the ninetieth anniversary of the union of the States, and of the inauguration of Washington as the first President—to make arrangements for the International Exhibition in 1889. Dr. Norvin Green, President of the Western Union Telegraph Company is one of the Executive Committee.

Mrs. EDISON says that when Mr. Edison gets the electric light finished, and one other invention off his hands, he and the family will go to Europe and stay two years. It may be just possible, however, judging from the progress already made, that the electric light will "finish" Mr. Edison before he finishes it. At any rate an expectant public has been looking for the "finishing" of the electric light for many weary months, but Mr. Edison seems to be about as much in the dark in regard to it as he was at the beginning.

Modern Shylocks.

Orton C. Baker, a well-known Western Union operator of Buffalo, N. Y., committed suicide in that city by shooting, February 19th. The deceased was thirty years of age, an excellent operator, regular in his attention to duty, and much respected by a large circle of acquaintances. He leaves a wife and one child. It appears that the system of loaning money at usurious rates of interest, unfortunately so common in nearly all large telegraph offices, was, if not the sole, at least the principal, cause that drove Mr. Baker to self-destruction.

About eighteen months or two years ago Baker had a severe attack of inflammatory rheumatism. He then ran badly in debt, and seems to have run behindhand ever since. In an evil moment he borrowed money from one of the modern Shylocks of which the Buffalo office has the misfortune to have several. Finally he owed a principal of between two and three hundred dollars, and such interest was he compelled to pay as to absorb every cent that he could save from his salary. His nature was more than ordinarily sensitive and morbid, and this matter weighed upon him so heavily that for weeks before he shot himself he was so changed that it was noticed by every one in the office, and for a day or two before his death he was unfit for work. The morning of the 19th he was seen intoxicated, and was so when he shot himself. An examination of his financial affairs was made after his death, with the following result: July 1st, he received from an operator of the Montreal Co. at Buffalo \$100. For this he gave a six months' note for \$130. About October 1st he borrowed from a Western Union operator \$75. His book shows three monthly payments on this latter of \$7.50, evidently 10 per cent. a month for three months, as Shylock presents a note for the full amount. Later he borrowed a little less than \$100 from another person, to whom he has made no payment, and who is sharp enough to say nothing about interest, as the matter is being stirred up. Baker borrowed from another employé of the company about \$80, for which the lender holds a note calling for \$125. They were all pressing him for payments; is the result to be wondered at? His body was buried February 23. On the 22d the Shylock last referred to was open in his threats to prosecute the widow till he got every cent his note called for. On the same day another Shylock put his claim into the hands of a lawyer, with instructions to proceed immediately, which he did, sending legal notice to Mrs. Baker at the moment when her husband's dead body lay in the next room!

Nor is this the only instance of the kind in Buffalo. Some time ago an old timer there broke down in health. He had a large family and small salary, and borrowed \$10 of one of the above Shylocks, agreeing to pay \$3 a month until the principal was paid. It was eleven months before he could get the \$10 together, consequently he paid \$33 interest, and Shylock insisted upon it.

Unjust and excessive usury is not only contrary to the laws of the nation and of the State, but it is a crime against the moral law which cannot be smoothed over or palliated by the argument that the borrower accepted the terms upon which a loan of money could be obtained. It must have been within the knowledge of the loaner that his exorbitant rates of interest were far beyond the means of his victim to pay. To pay even the in-

terest on but moderate sums, at sixty, one hundred, and sometimes as much as one hundred and twenty per cent., causes a strain upon the debtor's resources that leaves him little, if any, opportunity to liquidate the principal or any part of it and live!

There is something repulsive in the thought and in the knowledge that within the ranks of our fraternity such things exist; and, from the community so lately called upon suddenly to mourn the loss of one who could no longer meet the demands of his creditors, there comes a cry for the suppression of these Shylocks wherever they may be found, that our ranks may be freed from the temptation, too closely and too intimately entwining itself about more than one locality, and gathering within its fold the weak and apparently needy ere they are aware of the situation in which they have placed themselves. Steps are being taken at Buffalo for the suppression of this traffic, which we hope will result in the absolute breaking up of the business so far as that office is concerned. And there are other offices where a reform in this respect is as much needed as at Buffalo. We hope some one in each of the large cities where the system is in vogue will manfully lead a crusade against the illegal and demoralizing traffic until the business is freed from this pollution.

The Telegraph Bill in Congress.

The amendment to the Army Appropriation bill, permitting railroad companies to use their telegraph wires for commercial purposes passed the Senate February 24th. The amendment gave rise to extended debate. Mr. Jones, of Florida, submitted an amendment, providing that telegrams may be sent by railroad companies, etc., "which are hereby authorized to construct, maintain, and operate telegraph lines and to use the lines or wires they now have for the general public and the Government, subject to all the provisions of title 65 of the Revised Statutes of the United States." This amendment was rejected—26 to 35.

Mr. Beck, of Kentucky, submitted an amendment repealing so much of the Revised Statutes as authorizes the United States to acquire title to or obtain possession of telegraph lines within the United States, and declaring that all contracts with existing companies giving the United States that authority null and void. This was also rejected—33 to 35. Mr. Beck said that he did not believe in the Government controlling railroads and telegraph lines.

As adopted, the amendment reads: "And telegrams are authorized to be sent by railroad companies which have telegraph lines, and which shall file their written acceptance of the restrictions and obligations imposed on telegraph companies by title 65 of the Revised Statutes, for the Government and for the general public at rates to be fixed by the Government according to the provisions of title 65 of the Revised Statutes."

In another part of this issue we give a very full synopsis of the arguments on both sides before the Senate Committee on Railroads in reference to the bill introduced by Senator Jones, authorizing railroad companies owning telegraph lines to transact commercial and general business over them. After a vigorous fight in opposition to the bill; the Western Union, it will be seen, has succeeded by having the Committee recommend the appointment of a Commission to sit

during the recess of Congress, and to report its conclusions on all the subjects discussed by the committee to the President, who, in turn, is to transmit the document to Congress at the beginning of the next session. This leaves the telegraph business practically in its present condition for the next nine months at least, and the Western Union Telegraph Company gained a point.

The amendment to the Army bill, however, which has passed the Senate, is substantially the same thing, though it is questionable whether railroads will take advantage of the legislation. A reporter of one of the Chicago journals, after interviewing a number of the railroad men of that city, says that, so far as consulted, they are unanimous in the opinion that the new law will be of no benefit to the Western roads or the Western people, the Western roads not being prepared to go into the telegraph business on their own account.

Lotteries and Lottery Prizes.

OUR readers would be surprised at the amount of business transacted through THE OPERATOR Purchasing Agency. We receive orders for all kinds of things, telegraphic and non-telegraphic, from a twenty-five cent snapper-sounder to a \$100 phonograph, and from a photograph of some popular actor or actress, for instance, to a steam engine. Generally the orders are small, but we occasionally receive one amounting to from three to five hundred dollars, and up to the present time do not know of an instance where perfect satisfaction has not been given. We might say, by way of parenthesis, that many more OPERATOR readers and their friends would send their orders to us if they were aware how much better, and generally cheaper they can get goods by ordering through us than by sending direct, especially when they are not quite certain which particular instrument or apparatus would suit their purpose best. We are always glad to go to considerable trouble to get the best article for our readers at the lowest possible price, without charging them anything for the service, the manufacturer usually allowing us a small percentage on the goods ordered. Among other things we now and then receive orders for lottery tickets which we of course fill, although if our opinion were asked, we would not advise investing any money in such enterprises. We are often asked, too, the standing of certain so-called brokers, who flood the mails with circulars which pretend to show how fortunes can be made by speculating in Wall Street. Our uniform reply to such inquiries is, that these "brokers" are frauds, and that all such swindlers should be given a wide berth, even if one did make money out of stock speculations or lotteries—and ten thousand are ruined for every one who improves his fortune in this manner. It is oftener bad than good luck to carry off a big prize. Money that comes easily always goes as easily. There is a story told by an Indianapolis paper of a young man who did well enough until he drew a prize of \$5,000 in a Louisville lottery. The money was wasted in riotous living, and when it was gone, gambling and drinking had become passions with him. His debts have been settled by his father again and again, and his embezzlements have been kept out of sight, but he is now lying in a county jail in Illinois. Another young Hoosier, who drew a prize of

\$7,000, squandered it in a few years, and is now as worthless a vagabond as can be found in the West.

SHORTLY after last issue we received a telegram from Mr. Dwyer, of Sherbrooke, Quebec, asking permission to reply to the editorial in reference to him in that number. As is our custom, we told him to forward what he had to say, and if injustice had been done him, we would set the matter right. We have since received a lengthy communication from him, in which, after soundly berating the gentleman from whom he supposes our information was obtained, he says that when the Portland agent asked pay for the book, he told him that he would send the amount in a registered letter in a few days. The post office receipt story he denies *in toto*. He says that sickness prevented him from sending the money, and that the Portland agent "spoke to the manager in an insulting manner about him, and wrote him (Dwyer) an infamously abusive letter, telling him to return the money or the book." Justly irritated, he says, at this proceeding, he immediately returned the book to the agent. He further says that if there were ink stains on the cover he did not see them. The manager of the office certifies that the book was returned before receipt of the agent's letter. This is Mr. Dwyer's side of the story, and we see nothing in it to make us change the opinion of his conduct expressed last issue. He still appears to be champion. Want of space forbids the publishing of his letter in full.

MR. E. L. SMITH, manager of the Western Union office at Topeka, Kansas, was placed under arrest Feb. 23d, and brought before the House of Representatives for contempt, in failing to appear before the Senatorial Investigating Committee with original telegrams referring to the late Senatorial election when summoned to do so. It is understood that Mr. Smith's course has been adopted deliberately, and after consultation with the officers of the Western Union in New York. The company wants to have the question of the privacy of telegrams tested, and has the sympathy of business men and the public in the contest. Mr. Norman Williams, attorney for the Western Union at Chicago, will conduct the case in behalf of Mr. Smith and of the company.

MR. GEORGE H. BLISS' connection with the Western Electric Manufacturing Company, of Chicago, having terminated, that gentleman will in future be found at 76 Market Street, same city, as Business Manager of the Electric Merchandising Company. Mr. Bliss has spent a long apprenticeship at the business. We advise those requiring telegraphic or electrical apparatus or supplies of any description who have not had any dealings with Mr. Bliss to give him a call. Those who have already done business with him will not need this advice.

THE twenty-fifth anniversary of the formation by New York merchants of a company for the purpose of establishing telegraphic communication across the Atlantic will occur March 10th, next. On that evening Mr. Cyrus W. Field will give a grand dinner in honor of the event. Four of the five original organizers of the Atlantic Cable Company, Peter Cooper, Moses Taylor, Cyrus W. Field, and Marshall O. Roberts—are still alive. Mr. Wilson G. Hunt has since died.

THE French Atlantic cable is broken 161 miles from St. Pierre, Miquelon, in 500 fathoms of water. It is said that the new French Cable Company has under serious consideration a proposal of the Anglo-American Cable Company for an understanding whereby the competition between the two companies may be considerably reduced. A syndicate has decided to offer £1,600,000 of the new company's stock for public subscription."

Themes for the Thoughtful.

Heaven will be more than you ever dreamed it to be.

There is no sky without its cloud—no gold without its alloy.

The vigorous idea keeps warm, though wrapped in few words.

Do not force upon your neighbor a hat that hurts your own head.

Make your life so that there will always be a heaven around you.

It is a glorious thing to resist temptations, but it is safe to avoid them.

He who works with hope before him knows not fatigue and feels not pain.

Gratitude is the music of the heart, when its chords are swept by kindness.

Divine guidance is shown when our vessel, tempest tossed, keeps steadily on.

A year of pleasure passes like a fleeting breeze, but a moment of sorrow seems an age of pain.

In general, there is no one with whom life drags so disagreeably as with him who tries to make it shorter.

Circumstances cannot control genius: it will wrestle with them; its power will bend and break them to its path.

Happiness consists in occupation of mind. Small minds require to be occupied by affairs. Great minds can occupy themselves.

To love in order to be loved in return, is man; but to love for the pure sake of loving, is almost the characteristics of an angel.

Labor without ceasing to do all the good in your power, while time is allowed you, for the night will come when no man can work.

The man who possesses a passionate and revengeful temper is deprived of reason, and all that is great and noble in his nature is suppressed.

The man or woman whom excessive caution holds back from striking the anvil with earnest endeavor, is poor and cowardly of purpose.

In some lives all is bitterness without one ray of hope, but they themselves will it so. God gives us brightness, but we must reach out our hand to take it.

As the Sandwich Islander believes that the strength and valor of the enemy he kills passes into himself, so we gain the strength from the temptations we resist.

How women's hearts long for home, love and protection only they and God know. Some are compelled to accept a miserable substitute for it, but a true woman never accepts the counterfeit coin.

Temptation is a fearful word. It indicates the beginning of a possible series of infinite evils. It is the ringing of an alarm bell whose melancholy sounds may reverberate through eternity. Like the sudden, sharp cry of "fire!" in the night, it should rouse us to instantaneous activity, and brace every muscle to its highest tension.

After awhile

All masks shall fall away,
False usages, mere forms, and phases screening
Our other and our inmost self from sight,
All social silks and broadcloth intervening
Shall moulder with our bodies in the clay;
And clothed in tissues of translucent light,
We shall look back on these with pitying smile,
After awhile.

Dominion Telegraph Company.

The annual meeting of the Dominion Telegraph Company was held at Toronto, February 12. From the annual report of the Directors it appears that the gross revenue of the Company for 1878 has amounted to \$169,837.33 as compared with \$177,081.88 for 1877, showing a decrease for the year of \$7,244.55; while the working expenses for 1878 have been \$129,245.29, against \$124,397.68, or a reduction of \$4,847.61 on the previous year's total. The net revenue for the year has amounted to \$47,592.04, leaving after payment of interest on bonds, the sum of \$35,257.97 available for dividend, from which the Directors have declared an *interim* dividend of 3 per cent. for the half year ending June 30th, and a further dividend of 2½ per cent. for the closing half year ending December 31st, making for the year a total dividend of 5½ per cent., and leaving at the credit of profit and loss account a balance of \$1,891.47. The pole mileage of the Company at the end of the year was 4,618 miles, and the wire mileage 8,882. The number of offices open is 492.

The Directors congratulate the shareholders on the completion of their connecting lines in the Maritime Provinces, and feel warranted in assuming that the extension now consummated will prove a valuable boon to the public, and a profitable acquisition to the Company. The Dominion, they add, is now the only telegraph company transmitting public business over its own wires between the Upper Provinces of Ontario and Quebec, and the Lower Provinces of New Brunswick and Nova Scotia. Its lines, moreover, form the shortest as well as the only direct communication with the Atlantic Cable, connecting Canada with Great Britain, thus affording to Canadians the independent national telegraphic communication with the mother country so much desired.

The Directors also refer at some length to the late proposed pooling arrangement between the Montreal and Dominion Companies. Subsequently it was moved, seconded, and resolved that "the thanks of the shareholders of this Company are due, and hereby tendered to the Hon. T. N. Gibbs, President; Mr. Thos. Swinyard, Managing Director, and the several members of the Board, for the dignified course taken by them in the Company's interest in the late discussions pointing to a scheme for a pooling of the receipts of this and the Montreal Company, and the shareholders take this their earliest opportunity to place on record their deep sense of gratitude of the jealousy with which the independence of this Company was guarded, as fully in the failure of the scheme as in the part taken by the Company's representatives in the lengthened discussion of the details of the change proposed."

The President, in moving the adoption of the Directors' report, remarked that the continued depression in all branches of industry, had had the effect of reducing telegraphic business as well as other business generally, and as a result the gross returns of the Dominion Company showed a decrease of about \$7,000, as would be seen by the report. However, notwithstanding the cost of extending their territory, and opening new offices, the working expenses were some \$2,000 less than the previous year. The greater part of the decrease in earnings was attributable to the arrangement entered into between the Western Union and Atlantic and Pacific Telegraph Companies by which a large number of offices in the United States had been closed by the latter Company. It was satisfactory, however, to him, to state that the Canadian trade proper showed a small aggregate increase. In conclusion, he alluded to the prospects of a revival in trade in the not distant future, which would bring with it increased business for the Dominion Company, especially now that the Company had completed its extensions to the Maritime Provinces.

At a subsequent meeting of the new Board, Hon. T. N. Gibbs was elected President; Mr. James Gooderham, Vice-President; Mr. James Michie, Treasurer, and Mr. Thomas Swinyard, Managing Director.

Edison's sister tells a good story of this boyhood. "He tried to sit on eggs," she said. "What's that? How? What do you mean?" inquired the listener. "Why, he was about six, I should think, and he found out how the goose was sitting, and then saw what the surprising result was. One day we missed him, called, sent messengers, couldn't find him anywhere. By and by, don't you think, father found him curled up in a nest he had made in the barn and filled with geese and hen's eggs—actually sitting on the eggs and trying to hatch them!"

Albany, N. Y., and Vicinity Items.

The telegraph office in the new capitol building is in perfect harmony with the rest of the grand structure, being a large booth, attractive in appearance, and very conveniently arranged. It was built in N. Y. by the W. U., after plans furnished by the Capitol commissioners, and placed in position by foreman Chandler. It is in charge of Mr. Clarence Miller of the W. U. main office, with Mr. Geo. H. Usher as A. & P. press operator. More recent experiments with the electric light at the Capitol have shown that it has not yet reached the point of perfection making it practicable to adopt it for lighting that structure, and experiments for the present have been abandoned. The telephone line has been extended across the river to Bath. Mr. Geo. A. House, manager of the W. U. at Cohoes, N. Y., has just been elected fire commissioner in that city for a term of eight years. A Mr. Noble by name, though far from it by nature, came to Troy last fall, and opened a plug factory, advertising for lady students only, to learn the art of telegraphy, promising to give them a situation in Albany at the end of six months. Tuition, \$50, half to be paid upon entering the factory.

One young lady who had served the time named, and being put off by flimsy excuses, sent her "big brother" to wait upon the aforesaid Noble. His Royal Highness filled the brother with smooth talk, assuring him that it would be all right in a few days. The brother withdrew, and the Noble swindler moved his trap to another part of the city, but at last was ferreted out. When the indignant students went to the castle of the Noble *frad en masse*, however, they found upon the outside gate a notice that Noble had gone to a funeral, and would not be in town for a week. They also found a young lady who had been victimized only the day previous to the amount of twenty-five dollars.

Last reports do not show that the scoundrel has yet returned from the funeral, and it is to be hoped that he never will. We sympathize with the victims, yet not so deeply as we might were it not for the fact that the public are being constantly warned against such swindlers, and yet they will be led into their traps. We would like to tell how the telegraphic fraternity of Troy sat still and saw their profession disgraced by these proceedings without saying a word, but we forbear. Another plug factory is located in the academy at North Granville. We are not familiar with the *modus operandi*, but suffice it to say that the manager of the W. U. office at that place is apparently deeply interested in its welfare, as the students have all the privileges of his office. At least upon being asked if he had any students there, replied, "a few." This is one of the many tolerated by the Western Union.

Speaking of plug factories we might include the whole Susquehanna telegraph line, as we are informed that nearly every office contains one or more students, and that this meets the approval of Superintendent Jos. Angell; and laying aside principle, why should it not meet his approval, for through it he is enabled to obtain operators (?) at salaries rating about the same as paid the men who work in the gravel pits? X. Y. Z.

Poetry of Telegraph Poles.

What a receipt for preserving wood—to fill its pores with music! How this wild tree from the forest, stripped of its bark and set up here, rejoices to transmit this music!

When no melody proceeds from the wire I hear the hum within the entrails of the wood, the oracular tree, rejoicing, accumulating the prophetic fury. The resounding wood, how much the ancients would have made of it!

To have had a harp on so great a scale, girdling the very earth, and played on by the winds of every latitude and longitude, and that harp were (so to speak) the manifest blessing of heaven on a work of man. Shall we not now add a tenth muse to those immortal nine, and consider that this invention was most divinely honored and distinguished, upon which the muse has condescended to smile—this magic medium of communication to mankind?

To read that the ancients stretched a wire round the earth, attaching it to trees of the forest, on which they sent messages by one named Electricity—father of Lightning and Magnetism, swifter than Mercury—the stern command of war and news of peace; and that the winds caused this wire to vibrate so that it emitted harp like and Æolian music in all the lands through which it passed, as if to express the satisfaction of God in the inven-

tion! And this is fact, and yet we have attributed the instrument to no god.

I hear the sound of the wood working terribly within. When I put my ear to it, anon it swells into a clear tone, which seems to concentrate in the core of the tree, for all the sound seems to proceed from the wood. It is as if you entered some world cathedral, resounding to some vast organ. The fibres of all things have their tension, and are strained like the strings of a lyre. I feel the very ground tremble underneath my feet as I stand near the post. The wire vibrates with great force, as if it would strain and rend the wood. What an awful and fatal music it must be to the worms in the wood! No better vermifuge were needed. As the wood of an old Cremona, its every fibre, per chance, harmoniously trembled, and educated to resound melody, has brought a great price—so, methinks, these telegraph posts should bear a great price with musical instrument makers. It is prepared to be the material of harps for ages to come—as it were, put a-soak, a-seasoning in music.—*Thoreau*.

An Electrical Lady.

A Nevada City lady of high social standing presents a singular case for the consideration of scientists. For many years past she has been afflicted with acute neuralgic pains in various parts of the body, and, some time since, hoping to find relief, resorted to the use of an electrical battery. She used the apparatus for six months, but found no relief. At this time nothing was noted of unusual character as the result, and although several months have since elapsed, it was only when the recent cold weather commenced that any extraordinary symptoms followed. One night last week the lady had occasion to enter a dark room and pick up a woollen coat that was lying there. As she did she was both surprised and frightened to observe a bright light surrounding the hand that held the garment. At the same time the electric currents passed along the arm, shocking her quite severely. When her husband was informed of the fact he discredited its reality, thinking there was more imagination than anything else in it. So the next evening, to convince the incredulous better half, she turned the gas out in the room where they were sitting, and letting her hair down began combing it. A remarkable display of light was the result. The sparks flew around in every direction, and there was a sharp, cracking sound as the teeth of the comb passed between the hairs. In laying her hands upon iron the lady does not observe the peculiarities referred to, but the instant she touches a woollen cloth the fire begins to fly, and the shocks follow one another in rapid succession.—*Nevada Transcript*.

The Microphone Attachment to the Bell Telephone.

A decided interest has been expressed during the last few days at the Merchants' Exchange over the microphone attachment to the Bell telephone, which was added to the apparatus day before yesterday. In appearance the instrument is very little altered, the black rubber mouth piece being replaced by a depression in the small box which formerly held it, and behind which the metallic diaphragm is placed. In the microphone attachment the current is supplied by means of a small La Clanche battery, connecting with a small induction coil in the box, which in turn is connected with a diaphragm, and by these means an instrument is produced which is so sensitive that an ordinary whisper in front of this mouthpiece is distinctly heard at any one of the points where it may be connected. One reason for applying this attachment was the many complaints made about the indistinctness which occurred in receiving messages, and which with this application seems to be obviated. The Theater Comique Band, nearly half a square away from the instrument, and through the heavy closed windows of the Exchange, could be distinctly heard at the main office of the Telephone Company, at Sixth and Olive Streets.—*St. Louis Post*.

Inviolability of Telegrams.

At a meeting of the Bar Association, Albany, Nov. 20, G. P. Lowery, of New York, read an essay on "Telegrams: Their Inviolability against Disclosure, Subpoena, and Search-warrant," of which the following is a synopsis. He commenced by distinguishing telegrams from other messages, and cited a number of cases that had attracted attention

and discussion in this country and elsewhere since the invention of the telegraph. The speaker's own judgment was that no sound reason existed for distinguishing telegrams from other instruments of evidence, or the persons holding them from other witnesses in the possession of proofs necessary or useful in the administration of the laws, but that great respect for law would be required on special occasions to prevent abuses in the manner of production, especially when that production was at the command of those who were a law unto themselves. Some formalities additional to these now required by courts of justice in this State upon the issuance of subpoenas *duces tecum* might, with advantage, be observed when the production of telegrams was sought. "It is my purpose," said Mr. Lowery, "to draft a bill making these provisions, to be handed to the appropriate committee of this association, for their use should they deem the subject of sufficient interest." The paper was warmly applauded.

Dashes Here and There.

A Mr. Fuller, of Brooklyn, has invented a portable electric lamp.

When electric lights supersede kerosene, newspapers will be filled with interesting descriptions of enterprising domestics blowing up cook stoves with a streak of lightning.—*Detroit Free Press*.

The only thing that troubles Edison now is the corrosion of his platinum points. Perhaps a porous plaster, or a little chamomile tea, or something of that kind might relieve him.—*N. Y. Com. Adv.*

George Reogoncoiropile and Demitre Johanniostrawtu have just been admitted to American citizenship in Portland, Oregon. When an operator out that way gets hold of either of their names he thinks he has struck a cipher dispatch, sure.

"Will you please send us ward?" He asked her if she did not think that it would improve the word-ing of it somewhat if she should change her way-ward-ness a little. She thought it would, and so re-word-ed it, and then he re-word-ed her with a smile.

"When will this be delivered, sir?"

"In about half an hour."

This is the invariable question and answer, and we might set forth (modestly permitting) in (a) very able manner how we HAVE IN OUR experience known it to take the best half of a day to perform the service.

At first, the young operator is so infatuated that he never thinks of salary, and then the company rejoices; next, his thoughts are about evenly divided, and then the company trembles; at last, his whole attention is fastened on the compensation, and then the company instantly puts its hands in its pockets—and keeps them there.

There is one good thing about this electric light. When a man's collar-button gets away from him, and starts off on an exploring expedition across the room, he can look under the bureau for it without resorting to the dangerous and unsatisfactory expedient of laying a glass kerosene lamp down on its side on the floor—that is, if the impression we have received is correct, that the electric light makes all light and no shadow.—*Burlington Hawkeye*.

The Western Union Telegraph Co. clears seven per cent. on \$47,000,000, which means that the company hauls in \$3,290,000 a year over all expenses, yet that mammoth corporation only pays taxes on \$466,663, thus leaving \$46,533,337 untaxed. Who pays the taxes on this latter sum? Who but the stunted and starved laborers. Are the people deaf, or dumb, or asleep, or stupid, or why is it that this flagrant dishonesty is allowed to continue?—*Irish World*.

Dr. Fortin, of Quebec, recently delivered a lecture before the Board of Trade of that city on the desirability of an extension of the telegraph system to the Gulf and Islands of the St. Lawrence, treating especially of the relations of this question to the shipping, the fisheries and the signal service of Canada. A line of telegraph is in existence from Metapedia to Fox River, and from Matane to Fox River, girding almost the whole of Gaspesia, and enabling the different stations to report a passing vessel every three hours. On this line they now have stations nowhere more than twenty miles apart, so that from any point along the coast, a report may be sent to Quebec or any other part of the world within a few hours. Dr. Fortin desired to see the same system extended all over the Gulf of St. Lawrence, Anticosti and the Magdalen Islands.

When Professor Graham Bell was in London he was asked how he accounted for the fact that a large

proportion of new inventions came from the United States, and how it had come to pass that he, a Scotchman, born and educated at home, should elect to go and live in America, and date his discoveries thence. He said that the fact was, in his case—and he knew that the difficulty was felt with others—that he could not easily obtain in England those appliances which his work required. If he went to an instrument maker and ordered anything out of the usual way, he was met with all sorts of difficulties, and when these were over he was confounded by the cost. In America, on the other hand, the instrument makers and manufacturers lay themselves out specially to secure the custom of inventors. They will go to any expense, or submit to any inconvenience in the way of disarranging their ordinary procedure. Of course they do not do this purely in the interests of science. They find their account in the business they secure should the invention turn out to be a practicability. They are always glad to get new ideas, or be themselves put on the track.

We are in danger of a new barbarism. The phrase "to duplex" an electric cable seems coming rapidly into use,—in the sense of to make it capable of doing double the work that it did before. But if that be the meaning, why not use the word "double" itself? "Duplex" means properly "two-fold," and to propose "to twofold" anything, is even less barbarous than to propose to "duplex" it because it does not naturalize in English a genuinely Latin term. Perhaps it would be said that the word "double" would be misunderstood, and imply adding another cable of equal size. Well, that mistake might just as well be made with the Latin word, and can only be avoided in either the one case or the other, by explanations. Of why not say "to duplify" from the analogy of "simplify"? In any case, "to duplex" is etymological vandalism. Why are such liberties taken with Latin, and never with any living language? Who would venture to speak of "to zweifach," an electric cable? If "to duplex" is right, why not "to simplex" also? If not say that Mr. Carlyle has "simplexed" his style, or the West End milliners have "simplexed" their fashions?—*The Spectator*.

The French Minister of Public Works (according to the *Mondeur Scientifique*) has been experimenting on the River Lot, in Aveyron, with an electric apparatus designed to re-produce automatically, from a higher to a lower point of the river, the variations of level, so as to give immediate warning of floods, and enable the inhabitants to make what preparation they can. The experiments were made between two points about a mile apart. At the higher, Laroque, is a float which follows the upward and downward motion of the water (without being affected by the current). It communicates its movements through a battery and conducting wire to the needle of a graduated scale at Capdenac, the lower point, and the needle thus indicates all the fluctuations of level. At a certain point on the scale is the word danger, and when the needle reaches this, it sets in action a number of bells in the houses on the banks, connected by wire with the instrument. Thus the inhabitants are warned to make ready. This curious apparatus is the invention of M. Gros, of Rodez, and it has met with the high approval from the Ministry of Public Works and the General Council of Aveyron. The need of something of the kind has been strongly felt, as floods in that region have proved very disastrous.

Two men were executed at Mauch Chunk, Pa., January 14th, and immediately after the drop had fallen a telegraphic reprieve arrived from the Governor, but was just about half a minute too late. It appears that Governor Hartman only reached his office at Harrisburg from Washington that morning, and about 10:30, after hearing the attorney's plea, decided to reprieve the condemned men until the following Monday. The telegram was then written, filed in the telegraph office at 10:35, and sent at 10:36. As soon as it was received at Mauch Chunk, the manager of the Western Union office rushed to the jail with it, and rang the bell violently. He reached the jail door before the drop fell, but no attention was paid to his knocking and ringing, the wife of one of the culprits having previously been extremely violent outside. When the drop fell the knocking and ringing continued, and the Sheriff sent out a man to arrest the persons whom he imagined to be creating a disturbance. It was then found to be the telegraph manager with a reprieve. The affair created much excitement in Mauch Chunk.

Echoes from 197.

Percy Jones has been visiting friends in Hornellsville.

"Dad" Benett has returned from Canada, and is working on the night force.

Mr. Gibbs, of Toronto, is 'subbing at 197, and is very much liked by the boys.

It is the ladies who have spoilt Johnnie Calvert. They all worship him, you know.

Nellie Hammond intends to visit Ireland for the purpose of kissing the blarney stone.

Manager Merritt has taken charge of the 29th Dist. A. D. T. Co. He is well known, and we hope soon to see him an inspector.

Supt. English has now his headquarters at the St. Nicholas Hotel. The grief felt on 44 city at his departure is of the most poignant character.

Mr. J. B. Page, the youthful and fair, is now happily located at 791 Broadway, and a more contented community can't be found elsewhere.

Mechanical Engineer Morris is constructing a call bell and annunciator circuit to connect the President's room with the different offices in the building.

Those who labor under a sense of injustice are not apt to become very enthusiastic over their work. Telegraphers are, singularly enough, not an exception to this rule.

The telegraphers of the rapid transit road can well afford to look down upon their less fortunate brethren, their "stations" in life being so much more Elevated.

C. T. Dunning, of the A. D. T. Co., at 668 Sixth Ave., is addicted to the use of words of "learned length and thundering sound," and the boys are much edified and enlightened by his lectures, when in fault they have been found.

Miss Kittie Cummings, a comparatively recent acquisition, is much liked for her genial and affable ways. She works the Danbury wire to the entire satisfaction of all. You might *Hunter* round for some time without finding a harder way wire than Danbury.

The A. D. T. Company no longer receive payment for messages brought to the W. U., when they happen to be D. H. To be consistent, however, a step further should be taken, and only half payment given for reds; and to go still further, the whole thing should be abolished.

I desire through the columns of your paper to expose two plug factories now and for some time in existence at 321 Court Street and Fulton Ferry, Brooklyn. The first referred to is an A. & P. and W. U., and the other A. & P. office, where there are always three or four students practicing. I doubt whether the managers of these offices are aware of this state of affairs, therefore I take this means of informing them.

Romgo.

Through the kindness of Mr. Geo. K. Walcott, one of the "old-timers" at 197 Broadway, and Treasurer of the New York Vocal Union, about thirty of the male and female operators of this office were enabled to attend the very delightful concert given at Chickering Hall on the evening of February 14th. Old English glees and madrigals were rendered admirably and with wonderful expression by some sixty professional singers. Every one was delighted, and Mr. Walcott's kindness was greatly appreciated.

Mr. L. R. Hallock and Miss M. E. Emery were married at the residence of the bride's parents in Seneca Falls, N. Y., February 25th. Miss Emery has been working the Albany quadruplex for several years past, and has proved herself one of the most expert lady operators in the W. U. service. Mr. Hallock has charge of the Chicago quadruplexes and business, and is a gentleman in every sense of the word. We tender Mr. and Mrs. Hallock our warmest congratulations, and wish them every happiness in their new relation.

A correspondent complains of the manufacture of embryo telegraphers in the main office. He says: "During the busy season last summer Saratoga wire was worked quadruplex, but after the rush was over Saratoga was put on the Whitehall wire. This leaves the quad unoccupied, and it is now used by gangs of the check boys 'both sided' up to 7:30 P. M. for practicing. The night check boys also find plenty of time to send to each other, and some of them may be seen at any time of the night sending to each other. Seems to me this ought to be stopped on account of the delay to business, if for no other reason."

It is claimed that Mr. George Cumming's picture, called "Color Glow," mentioned in this column last issue, is not original, but a copy of Mr. Gustavus Frankenstein's "Magic Reciprocals," copyrighted in 1876. "Color Glow" has for that reason been removed from the exhibition at the Academy of Design, though Mr. Cumming stoutly maintains that it is not a copy of anything, but is constructed upon an entirely different principle from the "Magic Reciprocals." Referring to the matter, a correspondent drifts into poetry in the following strain: It hung upon the wall of an Eastern gallerye, As fair and grand a sight as one could wish to see; Made by a telegraphist from the State of Ohio, "A Rectilinear Spectrum" or famous "Color Glow." The balance of the story I hope that all will read—'Tis a sad but truthful history of an operator's greed; And then at the moral let the "artist" take a look, And decide 'tis best to never—well, hardly ever—"hook."

"The moral of this wonderful tale is plain enough to all, Don't get above your proper sphere, or you may chance to fall; Remember, too, that borrowed plumes are most uncertain things, And never try to scale the sky with other people's wings."

PERSONALS.

At the meeting of The Electrical Society of the Ohio Valley, February 20th, Prof. E. S. Wayne delivered a very interesting lecture (Spectroscopic) in which he illustrated the analysis of light and its rays, as beneficial in developing the component parts of, or any adulteration of, wines and the various liquids, also the ingredients of light itself. By chemicals, he developed the presence of metals in the different fluids.

At a meeting of the management and employees of the Western Union Telegraph Company, at Buffalo, February 21st, it was *Resolved*, That we deeply mourn the loss of our associate, Orton C. Baker, who, while among us, was ever faithful and prompt in the performance of his duties, truthful, upright, social, and courteous in his intercourse with his companions, endearing himself to all in many pleasant ways.

I heartily concur with the article headed "A plea for Fewer Students" in your issue of February 15th, and will not only agree to not teach any one telegraphy, but will do all in my power to prevent others from teaching it, and will discourage, as far as possible, any one I know who may come forward to acquire the art. So far as I am able will do any thing to help the fraternity of operators and benefit myself thereby.

Yours Truly,

DON. C. CHANDLER.

HINDALE, Wis., February 25th.

CLEVELAND.—Mr. H. K. Hibbetts, late of Indianapolis, has accepted a position on the day force here. Mr. Ed. Stockwell has just returned from a trip to Michigan, and his health is much improved in consequence. Thursday last we received a call from Mr. E. C. Janes, manager of Mt. Vernon, Ohio, office. He says *THE OPERATOR* reaches Mt. Vernon regular, and is highly appreciated. Mr. Janes is a good operator and an efficient manager.

BRUTTS.

On Tuesday, February 11th, Messrs. Lemoine and Wilson, of North Sidney, C. B., with Messrs. Couper and Earle, of Hearts Content, N. F., sent and received 850 cables between 8 A. M. and 4 P. M. This included about 1,000 words of press and sundry D. H.'s, as well as pausing after each message to repeat the name and figures. Since the Direct Cable has been interrupted this is the average amount of business between those hours. Much more might be said about the creditable manner in which the business is handled between these offices.

I wish to correct "Fritz" in one or two particulars in his very interesting biography of Mr. Chas. Selden, published in your last issue. Mr. Selden did not have charge of Cincinnati office during either the Greeley or Hayes Convention. Mr. Johnson was quite ill at the time of the Greeley Convention, and as assistant chief of Cincinnati office I was in charge of the work during his absence. During the Hayes Convention Mr. J. himself was on deck, and had full charge of the work.

O. K. NEWTON, Assist. Chf. Opr.

CINCINNATI, Feb. 18.

Operators cannot be too careful about receiving train orders correctly. The misreading of a single word may often occasion the most serious consequences. And they should never let a message go

out of their hands that is not perfectly distinctly written. A collision recently occurred on the Missouri River, Fort Scott, and Gulf Railroad, in which, though fortunately no lives were lost, \$7,000 worth of property was destroyed, all because the operator at Olathe, Kansas, misread one conductor's name Deitz for another, Dripp, and, when corrected, the dispatcher carelessly wrote one name over the other in such a manner that it looked like either, and, Dripp having just arrived at Olathe, the conductor to whom it was addressed, thinking the track clear, went ahead, and the collision was the result. A correspondent in a Western State sends us a message which he sent to an operator at the rate of fifteen words a minute, and which, he says, another operator on the line heard. As sent the dispatch read: "If — side track is clear, please give me main track." As received, however, it ran: "If — side track is full, stay on main track!" Such carelessness is wholly inexcusable. But doubtless the intelligent operator is one of those "cheap" men that railroad corporations put up with rather than pay a fair salary to a competent operator.

D. L. & W. R. R.—Beginning at Scranton, we find Supt. Bogart, one of the boys when off duty; Sam Kellum dispatcher, assisted by his brother Will, and J. E. Clifford the night owl. All fine operators. Huff, at Washington, is the fastest sender on the line. At Oxford Furnace, A. M. Ryan always has a joke for the boys. Geo. Dunn, Portland, has again gained residence in Pennsylvania. Any of the readers who wish to make their vacation the coming season a profitable and pleasant one, will do well to pitch their tents at Pocono Forks, where they will find Walter Dutot, agent, and J. A. Gardner night man, who are ever ready to act as guides to those who enjoy angling for the speckled beauties. Give them a call. At Gouldsboro S. S. Hager is operator. Jno. Latouche is at Moscow; A. Ball at Abington; O. D. Roberts at Foster. At Montrose we find the happy man, E. D. Bell. His is a true case of the old adage. "Laugh and grow fat." It is said that E. D. and his helpmate turn the balance at 435 lb. M. Hayes, known as "old reliable," who well merits the name, is at Great Bend; Geo. Ward, is night operator same place; John Honan hurries up the boys from Binghamton. You'll not find a better set of boys in the whole fraternity than on this line. Boys wake up and send in your subscriptions for "THE OPERATOR." You will never do without it when you once know its value.

OMAHA.—Corry A. Reed, operator U. P. R. R. at Transfer, has been transferred to Fremont, Neb. A. F. Briggs, of Kearney, Neb., lately C. & N. W. operator at Council Bluffs, takes Mr. Reed's place at Transfer, and Hugh Gillis, of Fremont, comes to Council Bluffs to fill the vacancy caused by the recent appointment of Mr. A. Coneys to a position in the train dispatching department of the C., R. I. & P. at Chicago. This changes the boys around somewhat. No other changes have been made in this vicinity. The circular issued by Mr. Dickey, of the U. P. R. R., relative to students, has had the effect of bringing to light a large number of aspirants for telegraphic fame. No less than forty-two applications have been made in one month for permission to practice and learn, and when this permission was refused, political influence was in many cases evoked, but all in vain. Mr. Dickey seems determined to abolish the student business, at least so far as his lines are concerned. In the W. U. "Om" office the new quadruplex instruments have been set up, and work with great satisfaction. Mr. Knight, the manager of this office, developed considerable egotism when he allowed the Omaha Herald, in an article two and a half columns in length, to give him the entire credit of setting up this somewhat difficult piece of work, entirely ignoring Mr. Curry, the chief operator and electrician of the office, to whom the credit belonged. Mr. Knight having had nothing to do with them. The Omaha Bee saw the situation, and endeavored to correct the impression.

RANDALL.

MILWAUKEE.—Another reduction in salaries has been ordered by the N. W. Tel. Co., to take effect March 1st. Thus far the W. U. have not reduced, and we hope they will not. A bill was presented in the Legislature at Madison, some days ago, to tax telegraph companies five per cent. on their gross earnings. The bill creates considerable excitement in telegraph circles, but there's not much danger of its passage. According to announcement, Mr. J. J. Coleman, station agent at Hilbert, was married on the 17th inst. to Miss Mary Cauty, of this city. We add our congratulations to the many which they have already received, and hope their journey

through life may be one of unbounded happiness. McGuckin and Nelson indulged in a little bulldozing between themselves last week. Mac apparently came out second best. Both deserve considerable credit for the amount of "babyishness" displayed. Will Whitcomb and sister, of "W. H.," took a trip to Portage on the 18th. The people of that burg felt highly honored at being favored with a visit from two such distinguished followers of Prof. Morse. Mr. C. A. Allen, manager of the Chicago and Milwaukee Telegraph office in this city, feels happy over the birth of a ten-pound boy. Mr. O. T. Reed, agent and operator for the C. M. & St. Paul R. R. Co. at Portage, was prostrated on Friday evening, 14th prox., by a very severe attack of cerebrospinal meningitis, and has been in a state of unconsciousness ever since. Advances up to date indicate a slight improvement in his condition, but he is not yet considered entirely out of danger. J. W. Laughlin, of Waukesha, left that burg on the 19th, with the intention of making an extended pleasure trip through the South. We wish him a very pleasant journey and safe return home. The continued increasing of subscriptions in this section is a sufficient proof that the interest in *THE OPERATOR* grows greater with every issue. A dollar and a quarter cannot possibly be put to better advantage than by investing for one year at least.

PHILOPENA.

WATERTOWN, Wis.—At Fort Howard are two as good operators as they make them—Barclay and Wilson. Tom Callahan, whose name is always spoken with praise, is at Neebaw. Townsend does very efficient work at Appleton. McGonogh, Kimball, and Wright are good law-abiding citizens of Oakkosh. Billy Mundt and Cropsy, of Fond du Lac, do business to the satisfaction of every one. The N. W. R. R. Co. has a good and faithful servant in P. W. Cole, of Oakfield. A pay-roll was never seized by a better chap than Lucas, now at Chester. There is a man out in Jurean of whom the company ought to feel proud. His name is O. Harris. In Watertown we find the "Big Two," Jim Ryan and Andy McCabe. Up at the Junction George Webb holds forth. Wm. Cole finds all he can do at Burnett Junction, and does it well. S. F. Antis, of Johnson's Creek, telegraphs, sells tickets, draws his salary constantly, reads *THE OPERATOR*, and goes to church every Sunday, as all readers of that paper do. H. O. Burbank, or "Wild Hank," as he is called, and E. J. Schwelienbach knock sparks and splinters out of things around Jefferson. Fort Atkinson is well cared for by Anderson and Saxe. Jonesville's interests are attended to by Rogan and Nightingale. The voice of the nightingale is heard every evening from 6 p. m. till morning. Budlong keeps Clinton office in tip-top order. Fuller, Hinkle, and Edison, of Harvard, Hawley and Martin, of Woodstock, and Roe, of Palatine, are men "good and true." At Norwood Park we have the pet of the line—Miss Mira Dunlap. She also reads *THE OPERATOR*, and consequently always feels happy. "Lightning Flashes and Electric Dashes" are distributed from "S. J." office by Messrs. Smith and Goodrich and Miss Mary Lane. There are quite a number of telegraphers on this circuit who take *THE OPERATOR*, but there are many others who could well afford to that do not. I dare say there isn't an operator on the whole line who could not spare \$1.25 a year in support of such a paper as yours. Send in your names, boys, and you will receive the worth of your money.

MARRIAGES.

DUGGAN—McCORMICK.—At Montreal, Canada, on Tuesday morning, February 25, 1879, Joseph R. Duggan, Montreal Tel. Co., to Mary E. McCormick, of Montreal.

WEBSTER—PARSONS.—February 19th, at Montgomery, Mich., by Rev. C. W. Ellis, J. D. Webster, lately of B. & O. Railway, to Miss M. Luella Parsons. No cards.

CONKLIN—DAVIS.—February 12th, at the residence of the bride's sister, Columbus, O., Mr. Frank Conklin, of the W. U. Tel. office, to Miss Jennie Davis, both of Columbus.

BIRTHS.

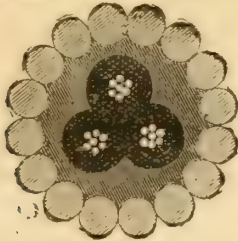
January 29th, to the late A. D. Babbitt, of New Orleans, a son. May he prove a blessing to the bowed and broken heart of a faithful and loving wife.—A. L.

January 25th, to Ike Washington, W. U. office, Columbus, O., a daughter.

February 13th, to Mr. Dennis F. Brown, of the Western Union main office, New York, a daughter.

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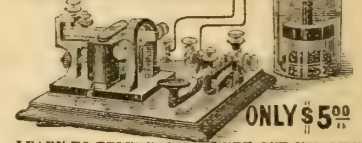
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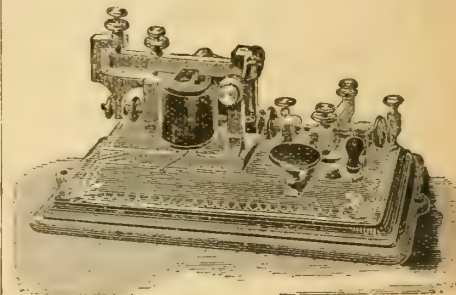
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The OPERATOR

A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY.

VOL. X.

NEW YORK, MARCH 15, 1879.

No. 6

THE OPERATOR.

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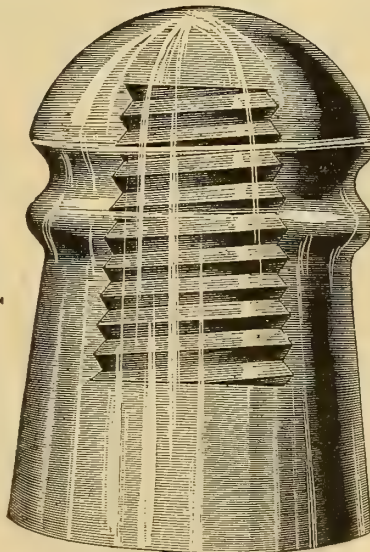
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This elegant volume will remain an enduring monument to the industry, scientific knowledge, and literary ability of its accomplished author. The task of its preparation was assigned him by his associates and assumed and prosecuted as a labor of love. He has done his work with characteristic fidelity, and has produced a volume quite worthy of its theme, and equally creditable to printers and author.—*Albany Evening Journal.*

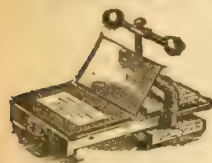
Mr. Reid has made a great work—great in size and great in the fidelity of its research, and the industry and skill of its author. It is what it purports to be—an exhaustive history of the telegraph in America, from its rude beginning to its present gigantic developments. The minutest details are given and the services of the pioneers are fitly commemorated. Both the science and the history of telegraphy are clearly set forth. Biographies are included of all who have been prominently identified with the telegraph, and there is a wealth of information upon every conceivable branch of the subject.—*Rochester Democrat.*

The author reserves to himself the right of supplying copies of the book to members of the telegraphic profession. To such the price is \$5.00, and operators recommended by their superintendents will be forwarded books, prepaid, on receipt of \$1.00, and \$1.00 a month until the \$5.00 is paid. Address,

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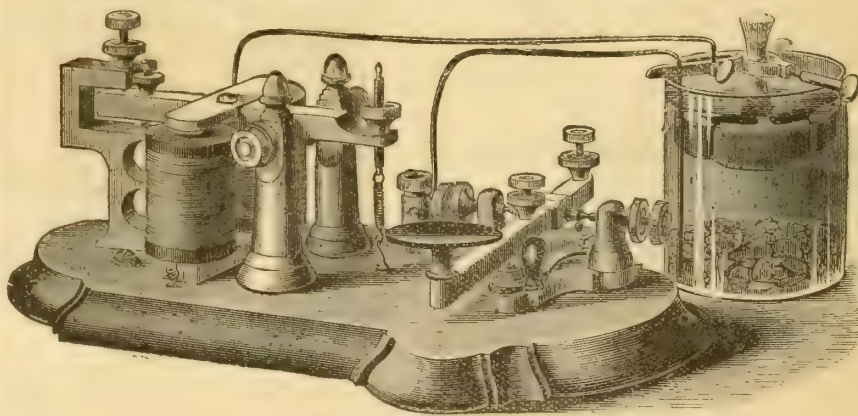
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THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

March 15th, 1879.

Volume X.

Whole No. 122.

! The Song of the Lightning.!

For a thousand, thousand rolling years,
Abroad through the open sky,
I ranged at will in my car of clouds,
By the storm wind borne on high.

I played round the first of this race of men,
And mocked in my scornful mirth
When dominion and power were given him
O'er all the beasts of the earth.

Bow down, if ye will, ye sudden clouds,
To this beast who walks upright;
I scorn ye all, and your king defy;
And laugh at your puny might.

The earth may yield to your monarch new,
The sea submit to his will,
But unseen I walk through the air and scorn
His utmost strength and skill.

His days I'll fill with a deadly fear,
I'll scorch him with my breath,
And the midnight sky shall flash and flame
With my awful flag of death.

His children shall lift up frightened eyes
To the horrors overhead,
And while they cling to his trembling hand
My bolts shall smite them dead.

My brother, the earthquake, when least he thinks,
Will crush the earth like a shell,
And on his head from the smoking hills
Will pour the fires of hell.

Six thousand years have passed, and lo!
The man whom I thus defied
Has dragged me down from my cloud-borne car
And chained me fast at his side.

At his command I gird the earth,
And pass beneath the seas,
Bear o'er the lands with winged speed
The lightest wish he breathes.

In war and peace, at nod and beck,
I, mindful, come and go,
Bearing upon a willing wing
His orders to and fro.

This creature, man, well nigh had been
A God when from the tree
Of knowledge, plucking fruit, he ate—
What is he yet to be?

CINCINNATI, O., Feb. 8, 1879.

SUMAC.

The Atlantic Cable Anniversary.

The spacious mansion of Cyrus W. Field, at Twenty-first street and Lexington Avenue, was crowded on Monday evening last, March 10th, with eminent men in public and private life who had gathered to celebrate the twenty-fifth anniversary of the signing of the agreement to form an ocean telegraph company. In the room where, twenty-five years ago, a group of earnest men discussed the practicability of connecting continents with the electric telegraph, most of their number were gathered Monday night. There stood the table on which the agreement was signed which formed the first Atlantic Telegraph Company. The furniture and decorations were unchanged, except that one side was draped for the occasion with the flag that flew from the masthead of the Niagara in 1857 and 1858, and from that of the Great Eastern in 1865 and 1866. Early in 1854, Cyrus W. Field, who had already investigated the subject of submarine telegraphy, became convinced that it was practicable, and determined to make a practical test. He looked around for a few friends to share in the enterprise with him, selecting first his neighbor, Peter Cooper, and then Moses Taylor, Marshal O. Roberts, and Chandler White. They met in Mr. Field's dining-room on the evenings of March 7, 8, 9, and 10, and a few minutes after 10 o'clock on the last named night

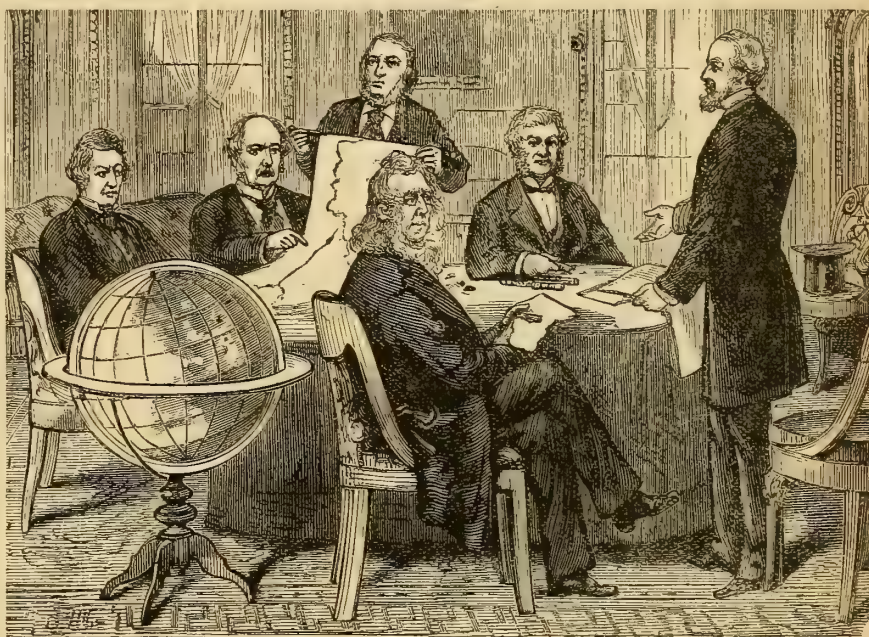
the agreement to form a company was signed. It was the twenty-fifth anniversary of that event which was celebrated.

Nearly 1,500 invitations had been sent out and several hundred persons responded in person. Among the telegraphers present were Dr. Norvin Green, General T. T. Eckert, General Anson Stager, Moses G. Farmer, J. H. Wade, of Cleveland, Ex-Postmaster-General, Jewell, Augustus Schell, Supt. Ward, of the Direct Cable, Amos F. Learned, of the New England Press Association, R. H. Rochester, Treasurer of the Western Union, and Col. T. Smith, the oldest telegraph operator in the United States. Several letters of congratulation were read from persons unable to be present. Telegraphic greetings were also received from President Hayes and cabinet, Senators, Judges, Ministers, Army and Navy officers, and Governors, as well as from the Marquis of Lorne, Sir Hugh Allan, Dean Stanley, and Sir Wm. Thompson, and many others. The parlors, halls, and dining rooms were adorned with flowers. On the walls of the parlor were hung pictures representing incidents in the history of the cable, the landings at Valencia and Heart's Content; grappling for the cable from the Great Eastern; testing the cable on board after recovery and making the splice. All the faces are portraits of men actually engaged in the enterprise.

In the course of conversation, Mr. Field said that four years ago the King of the Sandwich Islands, King Kalakaua, called upon him at his house,

pected from men of their high position and character—that they stood by the undertaking manfully for twelve long years, through discouragements such as nobody knows but themselves. Those who applauded our success know little through what struggles it was obtained. One disappointment followed another, till "hope deferred made the heart sick." We had little help from outside, for few had any faith in our enterprise. But not a man deserted the ship; all stood by it to the end. My brother, Dudley, is also here, who, as the counsel of the company, was present at the signing of the agreement, and went with Mr. White and myself the week after to Newfoundland, to obtain the charter, and was our legal adviser through those anxious and troubled years, when success seemed very doubtful. At St. John's the first man to give us a hearty welcome, and who aided us in obtaining our charter, was Mr. Edward M. Archibald, then Prime Minister of Newfoundland, and now for more than twenty years the honored representative of Her Majesty's Government at this port, who is also here to-night. It is a matter for grateful acknowledgement that we were spared to see accomplished the work that we began; and that we can meet now, at the end of a quarter of a century, to look with wonder at what has been wrought since in other parts of the world.

Our little company came into existence only a few weeks before the Western Union Telegraph Company, which is entitled to share in our congratulations, and which has kindly brought a connecting



ORGANIZING THE FIRST OCEAN CABLE, MARCH 10TH, 1854.

and was much interested in ocean cables. Before he left he promised to give the company a concession to land a cable on the Sandwich Islands to connect the United States with Japan. "This day," continued Mr. Field, "I have received that concession at the hands of the Hawaiian Minister." Mr. Field also said that the occasion was memorable on account of the adaptation which had just been made of the duplex system to ocean cables. The Company had made many experiments, he said, on its short European cables, but it was only within a few days that dispatches have been sent both ways at the same instant through the ocean cables.

At the hour and minute at which the agreement had been signed, Cyrus W. Field gave a history of the enterprise in a brief sketch, in which he said:

NEIGHBORS AND FRIENDS: Twenty-five years ago this evening, in this house, in this room, on this table, and at this very hour, was signed the agreement to form the New York, Newfoundland and London Telegraph Company—the first company ever formed to lay an ocean cable. It was signed by five persons, four of whom—Peter Cooper, Moses Taylor, Marshall O. Roberts, and myself—are here to-night. The fifth, Mr. Chandler White, died two years after, and his place was taken by Mr. Wilson G. Hunt, who is also present. Of my associates, it is to be said to their honor—as might have been ex-

wire into this room, by which we can this evening communicate with every town and village from the Atlantic to the Pacific; and by our sea cables, with Europe, Asia, Africa, Australia, New-Zealand, the West Indies, and South America. While our small circle has been broken by death but once, very different has it been with the Atlantic Telegraph Company, which was formed in London in 1856, to extend our line across the ocean. At its beginning there were eighteen English and twelve American directors, thirty in all, of whom twenty-nine have either died or retired from the board. I alone still remain one of the directors.

Many of the great men of science on both sides of the Atlantic, who inspired us by their knowledge and their enthusiasm, have passed away. We have lost Bache, whose Coast Survey mapped out the whole line of the American shores; and Maury, who first taught us to find a path through the depths of the seas; and Berryman, who sounded across the Atlantic; and Morse; and last, but not least, Henry. Across the water we miss some who did as much as any men in their generation to make the name of England great—Faraday, and Wheatstone, Stephenson, and Brunel—all of whom gave us freely of their invaluable counsel, refusing all compensation, because of the interest which they felt in the solution of a great problem of science and engineering skill.

It is a proud satisfaction to remember that while the two Governments aided us so generously with their ships, making surveys of the ocean, and even carrying our cable in the first expeditions, such men as these gave their support to an enterprise which was to unite the two countries, and in the end to bring the whole world together.

But though men die, their works, their discoveries, and their inventions live. From that small beginning under this roof, arose an art till then scarcely known, that of telegraphing through the depths of the sea. Twenty-five years ago there was not an ocean cable in the world. A few short lines had been laid across the Channel from England to the Continent, but all were in shallow water. Even science hardly dared to conceive of the possibility of sending human intelligence through the abysses of the ocean. But when we struck out to cross the Atlantic, we had to lay a cable over 2,000 miles long, in water over 2 miles deep. That great success gave an immense impulse to submarine telegraphy, then in its infancy, but which has since grown till it has stretched out its fingers tipped with fire into all the waters of the globe. "Its lines have gone into all the earth, and its words to the ends of the world." To-day there are over 70,000 miles of cable, crossing the seas and the oceans. And, as if it were not enough to have messages sent with the speed of lightning, they must be sent in opposite directions at the same moment. I have just received a telegram from Valentin, Ireland, which reads, "This anniversary witnesses duplex working across the Atlantic as an accomplished fact"—by which the capacity of all our ocean cables is doubled.

Who can measure the effect of this swift intelligence passing to and fro? Already it regulates the markets of the world. But better still is the new relation into which it brings the different kindreds of mankind. Nations are made enemies by their ignorance of each other. A better acquaintance leads to a better understanding; the sense of nearness, the relation of neighborhood, awakens the feeling of brotherhood. Is it not a sign that a better age is coming, when along the ocean-beds strewn with the wrecks of war, now glide the messages of peace?

One thing only remains which I still hope to be spared to see, and in which to take a part, the laying of the cable from San Francisco to the Sandwich Islands—for which I have received this very day a concession from King Kalakaua, by his Minister, who is here to-night—and from thence to Japan, by which the island groups of the Pacific may be brought into communication with the continents on either side—Asia and America—thus completing the circuit of the globe.

But life is passing, and perhaps that is to be left to other hands. Many of our old companions have fallen, and we must soon give place to our successors. But though we shall pass away, it is a satisfaction to have been able to do something that shall remain when we are gone. If in what I have done to advance this enterprise, I have done something for the honor of my country and the good of the world, I am devoutly grateful to my Creator. This has been the great ambition of my life, and is the chief inheritance which I leave to my children.

David Dudley Field followed in a short address in which he said, among other things: When I look at this ceiling and these walls, all unchanged, and think of the group, small in number, but great in heart, that then gathered around this table, and of what they set on foot, I feel that the achievements of our days have surpassed the marvels of fable and romance. Peter Cooper has written his name on walls of stone and iron; Moses Taylor has heaped up "riches and honor;" Marshall O. Roberts has ploughed either ocean with his swift ships; and yet nothing that these men have done has wrought half so much for the world as that which they that night began.

Though we then knew something of what we were doing, we did not know all. Events have outrun the imagination. Little did I dream that within twenty years I should stand beneath the Southern Cross and send from Australasia a message to my Northern home, which, almost while I stood, passed over half the globe, darting with the speed of thought across the nearly 2,000 miles of Australian desert, through the Arafura Sea, past the "Isles of Ternate and Tidore," across the Bay of Bengal and the Sea of Arabia, along the Red Sea coast, under the Mediterranean and Biscay's sleepless Bay, and finally beneath our own Atlantic to this island city, "situate at the entry of the sea."

Rev. Dr. Adams, pastor of Mr. Field, and also pastor of the late Professor Morse, made the only other speech of the evening. In it he said: Pro-

fessor Morse and Mr. Field—I speak to them because of my special intimacy with them as their pastor—I doubt not the same was true of their associates—always regarded themselves in this enterprise as the children and agents of Divine Providence. Never did they fail, at every stage of the proceeding, at the beginning of every voyage, to implore the aid of Him who "holdeth the waters in the hollow of his hand," and who hath made "whatsoever passeth through the paths of the sea." The motto of Mr. Field's coat-of-arms *Sans Dieu Rien*—was no pretence or impertinence. One incident deserves to be immortalized on canvas. When Captain Hudson, devout as he was gallant, after the cable had been drawn to its anchorage on shore, surrounded by his crew, with uncovered heads, fell upon his knees, and beneath the stars gave thanks to Almighty God for His gracious favor, and for the new power then born into the world. With no tendency to superstition, may we not believe that much of that pluck, so near akin to faith, which bore these enterprising men through untold difficulties, disappointments and rebuffs, leading them to risk their earthly fortunes in what to others seemed chimerical, entertaining cares, long and painful separations from happy homes, such as few ever knew—had its taproot in the religious conviction that this union of continents, symbolized on our cards of invitation, had a higher use and meaning than personal wealth or commercial benefits, even the purpose of God to bring the thoughts and the interests of all nations into ultimate unity. As the first message along the first telegraph on land was "What has God wrought," and the first words which flashed beneath the sea were "Peace on earth, good will to men;" so now as we lean to listen to the voice which, day and night, is passing under the surges of the Western Ocean, this is its interpretation:

Close wedded by that mystic cord
The continents are one!
And one in heart as one in blood
Shall all their peoples be;
The hands of human brotherhood,
Shall clasp beneath the sea.

How Edison Disposed of Old Stock in Trade.

The following characteristic sketches of the early days of Edison are from the advance sheets of his biography, now being written by Counsellor Edwin M. Fox, of this city, who for several years past has been an intimate friend of the great inventor:

About this time young Edison conceived the idea of starting a newspaper for circulation among the train hands and passengers generally. A spicy sheet telling of the daily life of the conductors, brakemen, and employés, giving the latest news from the scene of war, as clipped from the Detroit papers, and serving up the general gossip of the stations along the road, was his conception of what the paper ought to be. His service of ten months on the train as a newsboy was his experience, and a dozen pounds of old type his capital stock. Soon the new paper made its appearance. It bore the dignified title, in large block letters, *The Grand Trunk Herald*. Its salutatory told of its fearlessness in politics, and its fairness in everything. The editor welcomed all contributions, literary or otherwise, particularly otherwise. According to the hopes held out, the fledgling was to be the long felt want in the world of journalism. It was to so overflow with important news that even the least curious of passengers would feel compelled to disgorge the penny necessary for its purchase. In time its circulation was to extend far beyond the limits of the State of Michigan, and thousands of eager citizens would daily await its appearance with feverish impatience. For the first few weeks the founding fell rather tame on the unappreciative community. The largest of type seemed no inducement to purchase. People looked disdainfully at the diminutive sheet. In vain the editor and sole proprietor yelled its merits through the cars. The passengers were not to be cajoled or deceived.

After a few weeks, however, there came a change. Edison hit upon some railroad topic of general interest, and the demand for the new paper began to increase. People talked about it, and the coppers flowed fast into the hands of the ambitious young journalist. Some excited war news also at the same time transpired, and *The Grand Trunk Herald* came in for its share of the enhanced circulation of papers generally. But, alas, there came a day when the paper was forced to suspend. It was not because of financial troubles, for the expense attending its publication was only nominal, as young Edison wrote everything, and set up all the type himself,

doing the work at odd hours which he snatched from his regular duty as train boy. The disaster was rather inglorious in its character.

It came about through a man named Bockus. Mr. Bockus kept a store in Port Huron, and was pretty well known in the place. In an unguarded moment young Edison one day wrote something in his paper that touched the dignity of Mr. Bockus, and Mr. Bockus vowed vengeance against the offender.

Edison little suspected the impending danger. The ire of the angry Mr. B. was unknown to him. He pursued the even course of his way in apparent safety, chuckling at the hit he had made. The day of the disaster at last came. Edison was standing near the depot, waiting for the locomotive to steam up. He did not see a stout and wrathful looking man stealthily walking up behind him. He did not know at first whose was the heavy hand that alighted on his shoulder, and whose the voice of thunder that shouted in his ear, "I've got you now, you young rascal!" He had no time to apologize and ask questions. The river flowed near the spot, and toward it Mr. Bockus ruthlessly dragged the frightened editor. A shout, a short, sharp struggle, a splash, and the editor and sole proprietor of *The Grand Trunk Herald* was floundering in the water. Fortunately for science the young news lad was a good swimmer, and soon he was clambering up the pier a wetter but a wiser boy. *The Grand Trunk Herald* never again appeared. From that day forward Edison turned his back on journalism. The duties of the editorial chair were more than he cared to bear.

Not long after the inglorious downfall of the short lived paper, there occurred an incident in the train life of young Edison that even to-day is recalled with smiles by the old train hands. Among the passengers one summer afternoon, on the train from Port Huron to Detroit, were four young men, apparently the sons of wealthy fathers, traveling for pleasure. They laughed, and told stories, and enjoyed themselves as best they could. Evidently they had plenty of loose cash, for on one or two occasions in their hilarity they exhibited large rolls of bills. During one of their boisterous paroxysms young Edison happened to be passing through the train with a basket of oranges on his arm. "Here, bub," shouted one of the men, "what are you selling these oranges for?"

"Three cents apiece," readily responded the boy. "Let's see what they are good for," continued the first speaker, taking the basket in his lap, and scrutinizing the oranges as though about to pick out one. Young Edison at once began to expatiate on the lusciousness of the oranges, and their remarkable cheapness. The boisterous young man, however, cut him short by saying, "What will you take for the whole lot?" The train boy supposed of course his customer was jesting, but answered deferentially, "Well, I've got forty-five left. I'll sell 'em all for \$1." The words were scarcely uttered before the customer had pitched basket and oranges out of the open window. Young Edison stared at him in astonishment, then his indignation began to boil as he contemplated his loss, but before he could speak his eccentric customer had slipped a bill into his hands with the words, "There's \$2 for you—\$1 for the oranges, and \$1 for the basket."

Then looking at the still astonished train boy, he said, "Aren't you satisfied?"

"Satisfied! Lord, yes," said the boy, his eyes glistening as he again looked at the bill, and saw to a certainty that it was genuine. The incident over, the young men resumed their hilarity, and the train boy wended his way back to the baggage car, evidently in deep thought.

A few minutes later young Edison was again in the car that contained the eccentric customer. This time he had on his arm a basket of apples. They were not the largest apples in the market, neither were they altogether free from defects.

"What are your apples worth, young fellow?" shouted the old customer.

"Seven cents apiece," replied Edison, proceeding to dilate on the superiority of those particular apples above all others in the market.

"How many have you got?" continued the customer, taking the basket in his hand, and balancing it.

"Sixty-two," said Edison, just as the basket and apples sped through the window into an open field.

"Here's your money," said the prodigal, handing the train boy a \$5 note.

Edison again returned to the baggage car, and once more the hilarious quartet resumed their chaffing.

Five minutes later the train boy again appeared. This time his stock consisted of newspapers. Both

arms were filled. To appearances they were the papers of the day, but the young news agent knew that seven-eighths of them were old, discarded papers, which had been lying in his box for months.

"How much for your papers, bub?" shouted the young men.

"Six dollars for the lot," said Edison, somewhat timidly, however, as though fearful that the bonanza might be drained.

"Here they go!" shouted the customer, snatching them from his hands, and sending them, like their predecessors, through the open window.

"Here's your money," and the train boy pocketed \$6 additional.

Once more he left the car. By this time the passengers were wrought up to a high pitch of interest at the unusual departure in political economy which they had witnessed. The lavish young men laughed aloud at their course, and one of them was heard to say, "Well, I guess we've bought him out at last."

The prediction seemed to be true. Fifteen minutes passed away, and the train boy did not make his appearance.

But the prodigals did not know the boy with whom they were dealing. At the end of a quarter of an hour they looked up to see coming down the aisle of the car Edison and another boy, bearing between them a large box, at which they tugged and panted in their efforts to get it to the seats of the young men.

"What in thunder have you got here?" said they, rising to look at the curiosity. Young Edison wiped the perspiration from his brow, as he said, "Well, you've bought out all my stock, and now I've brought my store and fixtures along. Give me \$20 more, and you can chuck them all out of the window."

This was too much for the capitalists. They felt that they had met their match. They declined to make any further investment.

What Shall We Read?

If you will permit the conclusion of an article, which has been interrupted by sickness, I shall be under fresh obligations, and shall try to be brief.

One is often in the worst possible company when alone. This may sound strong to young or thoughtless heads, but to the meditative man whose hair is streaked with silver it is a sad, plain truth. One may select very bad companions from among his neighbors, even from among his professional companions; but he may find worse ones in his solitary thoughts. The darkest plots of crime, I suppose, have been conceived in solitude.

We cannot always find good men with sufficient leisure to help us while away an idle hour, but a good book is always at leisure, and, as I have said, is always cheap. A sufficient number were named in my previous article to form a very respectable beginning for a reader, and a nucleus for a very handsome and instructive library. He who begins a library with a good book will find himself ambitious to keep those which follow it up to its standard.

The public libraries of our cities serve a very cheap purpose to those who have easy and frequent access to them, and who have no desire to possess the books they read. But if the one of Cincinnati be a type of the others, and if other people's experience be in any measure the same as mine, their value is not illimitable. I have been to the Cincinnati Public Library some half dozen times or more, and in no case have I found the book I wanted. It was always "out." The lady (?) assistant was always very tired, or at least very languid, and moved about in the style of one who hoped there would be no libraries in heaven, or at any rate that readers would not "enter there." Passing momentarily out of sight behind a projecting angle, she soon returned, only to tell me that "it was not in." I suppose the poor creatures (there are a good many of them there) are tired. It must be hard work to step behind corners and out again, and say "It isn't in" in that fuzereal whisper so many times a day, for only forty dollars a month. I'm sorry they have to do it. However, I grew weary of going so often for nothing, so at last I quit.

A good many newspapers in the United States are publishing books in addition to their regular work. I am glad to see you at it. Still more do I rejoice to see you beginning your career on so high a plane. If your success be commensurate with your deserts, or the warmth of my wishes for you, you have indeed an enviable future before you.

The fraternity need an independent medium in which to make known their rights and their wrongs,

their hopes and their fears, to give their opinions, and to ask questions. Whether it mold the minds of its readers or whether they shall mold it, matters less than that they shall have such a medium of publication. Many men claim that the press is governed by public opinion. More frequently, I think, public opinion is governed—nay, made—by the press. How important, then, that the telegraphic fraternity should have an honest, sincere, enlightened guide for themselves. What the level of the profession in the future shall be depends very largely on what the character of its press shall be now and henceforth. We need now, and always shall need, a journal devoted to our professional interests, whose columns are not under the censorship of a soulless corporation; whose editor is our friend and brother, and withal, whose price is within our reach.

Such a one is THE OPERATOR, and such a one should be sustained. I am glad to learn that you are succeeding. I have heard, second hand, some of your history, and if I got it correctly, I think I can appreciate, in part at least, your feelings during the first twelve months of your connection with THE OPERATOR. I think I know something of the doubts and clouds which must have darkened your sky; the restless days and sleepless nights while your little boat at first was battling against adverse winds and opposing tides. The feverish search for acceptable material, the sensitiveness which was but half satisfied with the work when done; and last of all, the withering fact that your best efforts and hardest labor for the class for whom you wrought, earned not half so quick a notice at their very hands as would the foulest of the indecent publications of the *Police Gazette* or *Day's Doings*.

I think I know something of what your ideal must have been by what you have attained. You have not yet realized your ideal, I suppose. You never will; for with your ability to approach it, the ideal will grow. But you will as constantly grow with it. Your little boat, erewhile so savagely tossed by an angry sea, has grown into a gallant bark, well trimmed and ballasted, properly manned and officered, richly laden and safely anchored. Surely, you have trusted in the Lord. I can only rejoice with you at all this proud success. I am too late for the dangers and toils of the battle, but I am in time to share in "the peaceable fruits" of victory. Across the gulf which divides the successful editor from the humble correspondent, I stretch my feeble hand with a hearty benediction. True, you do not need it, but it will not hinder you.

He who plants a tree is a benefactor to the human race. Far more is he a benefactor who plants a pure motive or a lofty aspiration in a human heart. If the former should be rewarded by law, much more should the latter be repaid by the gratitude and service of the hearts for whom he works. In the future it should be the care of those who receive your bountiful labor to see that your audience shall still enlarge.

There are operators who take no professional paper whatever, who yet spend in a year many times the price of one in cigars, tobacco, and beer. To those who consider themselves and their brains of no consequence (if any such belong among the last class described), I suppose it may be a matter of little moment what is written here. But a wise regard for the future, a careful consideration for the wants and comforts of the years to come, should make us take scrupulous care of the present. Who are they who fill the highest, most responsible positions in the telegraphic field? Are they those who are content with the bare ability to send and receive? How many of them do you suppose are without a professional journal? Do you want a good salary? Will you get it by reading the Cincinnati *Commercial* or *Enquirer*? Big salaries are paid to men who are posted; not to the men who come latest in the morning and go earliest in the evening; who, in one word, are operators, and nothing more. There may be exceptions, but this is the rule.

CINCINNATI, O., Feb. 8, 1879.

A Look at the Other Side.

Commenting editorially in your issue of March 1st, upon the suicide in this city, recently, of Orton C. Barker, you assert that the principal, if not the sole cause of the rash act was the exaction of extortionate rates of interest by parties from whom he had borrowed various sums of money! I protest in the spirit of fairness against this wholesale shifting of responsibility upon shoulders where it does not properly belong. I do not appear as the apologist of Shylocks, ancient or modern, I condemn their

practice as heartily as any one, but I assume if there were no borrowers, Shylocks would have no occupation. There is no disguising the fact that the same notions of extravagance which have so long pervaded all classes of society have been, and yet remain to some extent the bane and curse of individuals, telegraphic and otherwise, who are blind to the necessity of economizing and retrenchment in order that expenses will not exceed revenues. Despite all attempts to find it, no system of accounts has yet been devised to prevent ultimate bankruptcy when these conditions are reversed. I know whereof I speak when I say that there are many operators who are discounting salaries not yet earned, living the present month on anticipated or unearned revenues. Unfortunately, many operators forget that we are no longer in "flush" times, and finding themselves cramped oftentimes for money with which to gratify some temporary or baleful appetite, they squander not only "cash in hand," but too frequently get into debt, from which they rarely emerge without sacrifices which they are unwilling to make. The idea is fallacious which supposes that any "necessity" can arise to justify the borrowing of money at 125 per cent. interest. No one can ever hope to pay or collect such exorbitant interest without ruining their chances of liquidating the principal! and no well balanced mind will ever engage in such a disastrous transaction. Under such circumstances the "necessities" which are urged as a plea, are, in a majority of instances, fictitious or exaggerated. It is at such times as this that operators become uneasy and discontented with their lot, and, instead of manfully striving to retrieve their fortunes, become discouraged, and, in the vain hope to extricate themselves even temporarily, they make an effort to duplicate the loan, or if unsuccessful, seek a new source of supply, thus multiplying their difficulties. The undeniable fact stands out that the ranks of operators contain many who from practice, if not by nature, are beggars of the most unblushing kind. Habitual beggars of anything and everything from tobacco and newspapers to a five dollar note! This is no misstatement of facts, for not a few operators of my acquaintance have investments in the shape of various sums loaned to impecunious members of our craft, and though borrowed "upon honor," and without interest, yet the principal has not been forthcoming, and probably never will be. I do not insinuate that repudiation was the intention in the case herein referred to, but from a personal knowledge of the many attendant circumstances connected with this affair, I am positive that payment was an impossibility, and, therefore no other conclusion could have been reached than that which transpired—desolation, disgrace, and death—such is the inevitable result, and will continue to be so long as men who do not fully appreciate the value of money find others who will give them credit upon terms and conditions which are impossible of fulfillment. The remedy lies in a more careful and prudent mode of living, an inflexible rule of regulating expenses according to receipts, and a restraint upon the gratification of useless and extravagant tastes.

This article may be thought by some to be in bad taste as an implied reflection upon the character of our late associate; but nothing of the kind is intended. No one holds him in more affectionate remembrance than I do, and my sole object in referring to the sad occurrence is to present facts, to correct possible false impressions, and no amount of sympathy or censure, however well or ill deserved should prevent their presentation. Suppressing facts serves no good purpose, but a portrayal of them in their true light may serve as a warning and lesson which should not pass unheeded.

JUSTICE.

BUFFALO, March 5th.

A new method of planting telegraph poles has been introduced in Pennsylvania. The ground is staked off at distances of 200 feet apart; a man starts off with cartridges of "electric powder," and with a crowbar in his hand. The bar is driven four or five feet into the ground, a cartridge with a lighted fuse is dropped into the hole, and the man proceeds to the next stake, but before he reaches it the cartridge has exploded, making a cavity as big as a flour barrel in the ground, and a gang of men who follow plant a telegraph pole in the spot. In this way four men will set up 100 to 150 poles per day, and at a cost two thirds less than by the old way.

Useful in war, the telephone, for with it you can telephone a minute.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

W. J. JOHNSTON, - - - Publisher

March 15th, 1879.

WESTERN UNION stock is quoted at 104½, and A. & P. at 37½.

THE schooner Queen City was struck by lightning at Buffalo during a thunder shower March 8th, and one of her masts completely shattered.

A Faraday electro magnet weighing 2,193 pounds, and believed to be the most powerful ever constructed was exhibited at the Paris Exposition. The diameter of the coils was nearly 20 inches, the height 23½ inches.

MESSRS. PARTRICK & CARTER have just issued a very handsome illustrated price list of electro-plating outfits, batteries, chemicals, supplies, etc., for the use of jewelers, locksmiths, amateurs, and practical platers.

OUR readers will thank us for the excellent wood-cut on page 3, representing the formation of the first ocean cable, at the residence of Cyrus W. Field, March 10th, 1854. Every face in the picture is a faithful likeness.

THE *Liverpool Courier's* London correspondent says that the new French-American Cable Company will be formally brought before the public some day present week. The cable is in process of construction, and is expected to be laid during the coming summer.

IN the United States Circuit Court in this city, on Saturday, March 1st, Judge Blatchford rendered a decision in the application of Clinton G. Colgate against the New York Central and Hudson River Railroad Company to restrain them from using his gutta-percha patent insulators on their cables and telegraph wires. It was stipulated by counsel that thirty days should be allowed the company in which to substitute kerite for gutta-percha on their wires. The Judge granted a preliminary injunction pursuant to the bill and stipulation, and says that the question as to whether kerite is an infringement on gutta-percha as an insulator is not passed upon in this decision.

THE heliograph was used for the first time in war by the British troops which operated against the Afridis on the Peshawur frontier, India. This instrument consists of a circular mirror, moving upon a universal joint, and supported on a tripod. Wishing to send messages, the operator by a quick elevation or depression of the glass, so as to catch the full glare of the sun, is able to throw flashes a distance of twenty-five miles. The length of the flashes corresponds with that of the dashes in the Morse alphabet, by which the messages are translated. This method of field telegraph does away entirely with the dangers of wire tapping and cutting by the enemy, and, after a thorough test has just been adopted by the Spanish military authorities,

The Cable's Silver Wedding.

We devote considerable space in this issue to the report of the twenty-fifth anniversary of the formation of the first ocean cable company.

The progress that has been made in ocean telegraphy during the quarter of a century just ended is truly wonderful. At that time the system was merely one man's dream, the realization of which seemed to the mass of mankind an impossibility. To-day, as Mr. Field stated in his address, there are over 70,000 miles of ocean cable crossing the seas and oceans. The duplex system, too, has just been successfully applied to long cables, thus duplex working across the Atlantic has just become an accomplished fact, thus doubling the capacity of each cable. There remains only one link more to be forged in this wonderful chain, and this work began also on Monday—that day of happy coincidences. With the laying of the Pacific cable, connecting the California coast with the Sandwich Islands, and the Islands with the great Eastern Continent, the globe will have its girdle of electric fire complete. Seeing to what this conception has grown in less than a generation, says the *Tribune* of this city, referring to the matter, we may well hesitate even to conjecture what its progress may be in another generation. Its influence upon the arts of war and peace, the methods of trade, and the manners of nations, upon language, and law, and religion, upon all the processes of diffusing civilization, is beyond human foresight, and may well serve as a theme for reverent thought.

The Atlantic cable originated with Cyrus W. Field, and was suggested to him in this way: A Roman Catholic Bishop of St. Johns, N. F., Bishop Muloch, advanced the idea that a line be built connecting St. John with the mainland, and then running a line of fast steamers to the west coast of Ireland, thus bringing America within a week of Europe.

In 1852, a Mr. F. N. Gisborne, acting upon this suggestion, commenced the erection of a line from St. John, through four hundred miles of dense forests to Cape Ray, there to connect with the inland lines. The following year, however, a short cable which he had laid gave out, and those who had invested money in the concern withheld further support. Work had therefore to be suspended. In 1854, Mr. Gisborne came to New York, and made the acquaintance of Cyrus W. Field, who was much interested in the enterprise.

While studying this subject, and turning over the globe in his library, the idea flashed across Mr. Field's mind, "Why not carry the line across the ocean?" He went to St. Johns, Newfoundland, in March, 1854, and obtained from the Legislature of that colony a charter granting an exclusive right for fifty years to establish a telegraph from the Continent of America to Newfoundland, and thence to Europe.

On March 10, 1854, the articles of association were signed. A company of five gentlemen sat in Mr. Field's parlor in Gramercy Park, and entered into the project. They were Peter Cooper, Moses Taylor, Marshall O. Roberts, Chandler White, and Cyrus W. Field. Peter Cooper became president of the association. Mr. White subsequently died, and Wilson G. Hunt took his place. The association was called "The New York, Newfoundland, and London Telegraph Company."

The Company's capital was \$1,500,000, of which

Mr. Field, to show his confidence in the success of the scheme, subscribed for one-fourth. A grant of £50,000 to aid the work was secured, as well as fifty square miles of public land, with a further grant of fifty more when the cable was laid.

It took more than two years to build the land line across Newfoundland and Cape Breton Island. While this was being done Mr. Field went to Europe and ordered a submarine cable, to connect Cape Ray and Cape Breton. This was sent out in 1855, and was lost in a gale in an attempt to lay it across the Gulf of St. Lawrence. The attempt was successfully renewed in 1856. This cable cost \$1,000,000.

In that year Mr. Field again went to London, and organized the Atlantic Telegraph Company, to carry the line across the ocean. He secured from the British and American Governments aid in ships, and he accompanied the expeditions which sailed from England in 1857 and 1858 for the purpose of laying the cable across the Atlantic Ocean. Twice the attempt failed in 1857, and again in 1858. The third attempt proved successful, and in 1858 telegraphic communication was established between England and America. Among the first messages sent was the announcement of the death of James Eddy, "the first and best telegrapher in the United States," as the dispatch published in the *Times* said. So incredulous were the public, that doubts were expressed of the genuineness of the dispatches transmitted, and only when a dispatch conveying the action of Parliament on an important public matter was verified by mail two weeks afterward, were these dispatches accepted as real.

In a few weeks the cable ceased to work, and on the very day that had been set apart in the United States as a day of thanksgiving for its completion, it was again pronounced a failure. Mr. Field never lost faith, and made frequent trips to Europe to resuscitate the company. The civil war broke out in the meantime, and not until 1865 was another expedition prepared. Submarine telegraphy had been greatly improved, a better cable was prepared, and the steamship *Great Eastern* took it on board, and sailed for the American coast. Over 1,200 miles of cable had been laid, when, by a sudden lurch of the vessel, the cable snapped and was lost. The bottom of the sea was dragged for days in search of the broken end, and the expedition returned to England. In 1866, the *Great Eastern* again sailed with a fresh cable, and 2,000 miles of wire were safely stretched across the ocean, and the communication was perfected July 27, 1866. After landing this the *Great Eastern* returned to the middle of the ocean, and after two months' search succeeded in grappling the sunken cable of the year previous. It was brought up from a distance of two miles, joined to the cable on the steamship, and carried safely to the Western shore.

After twelve years of incessant labor, in which he crossed the ocean nearly fifty times, Mr. Field saw the crowning effort of his life accomplished. Congress voted him a gold medal with the thanks of the nation, while the Prime Minister of England declared that it was only the fact that he was a citizen of another country that prevented his receiving high honors from the British Government.

The first cable cost \$1,256,250, and the Company's expenditures up to December 1, 1858, amounted to \$1,334,500. Among the dispatches sent over the new cable was the speech of the

King of Prussia just before the Austrian war. It cost \$3,600 to transmit it. This cable has been in running order almost continually since its successful completion. In 1874 work was begun by the "Direct Cable Company" to lay a cable between Ballinskelligs Bay, Ireland, and Rye, New Hampshire, by way of Nova Scotia. It was completed in 1875. Cables were also laid in other parts of the world, and in 1876 there were more than 200 cables, with a length of about 50,000 miles. By improvements in telegraphy, seventeen words a minute have been sent through the Atlantic cable. When the Atlantic cable was successfully laid, the rate was \$5, gold, a word. At first business was slow, and the heavy rates were maintained. Later on, a reduction was made to \$2.50, and afterward to \$1 a word. Now, it is understood, special contracts are made as low as 50 cents a word. The volume of business has greatly increased, and two cable companies are kept occupied in transmitting European messages. Over a month ago the cable of the English Company sundered near Torbay, and it was only recently repaired.

Resignation of President Eckert.

General Thomas Thompson Eckert handed in his resignation as President and Trustee of the Atlantic and Pacific Telegraph Company at the meeting of the trustees of the company on Tuesday evening last, March 11th.

The members were taken by surprise, and one of them expressed the belief that it was not seriously intended. General Eckert responded that he had written his resignation after mature deliberation, and that he did not desire to longer perform the duties of the presidency of the company. The resignation was laid upon the table, in the hope, as several of the directors expressed it, that the action would be reconsidered. General Eckert says, however, that his resignation was irrevocable.

A messenger was sent to Hamilton McK. Twombly, Vice-President, and he was requested to assume the functions of President, so that checks and stock-transfers could be signed. Mr. Twombly declined to act until the trustees should take some action on the resignation and indicate who should become Gen. Eckert's successor. As the next regular meeting of the trustees does not take place until April 30, it is understood that a special meeting will be called at once. The cause for the resignation could not be learned from the officers of either telegraph company, and the trustees were equally reticent. It was stated by a gentleman well versed in telegraph matters that when the Western Union Company obtained possession of a majority of the Atlantic and Pacific stock, by the pooling arrangement, a change in the executive management of the latter company was prevented by the claim of friends of Gen. Eckert, that the present building was leased until May next, and that certain press and other contracts entered into by the Atlantic and Pacific Company required the personal attention of its President. The lucrative offices here and elsewhere of the company were afterward closed, and the business was gradually absorbed by the Western Union. Later on the functions of the President were vested in the Executive Committee, a majority being directors of Western Union, so that the president became a mere figure-head. This, he claims, was irksome to a man of activity and busi-

ness acquirements like General Eckert, and he finally determined to resign.

It was also stated by an officer of the Western Union that the long lease of the Atlantic and Pacific building had made it necessary to maintain separate business managements, when all the business could be more economically administered by a single set of officers, and thus make the Atlantic and Pacific stock more valuable. This policy, he said, would probably be carried out after the present lease expired, and the business would then all be done in the Western Union building. Existing press and other contracts made by the Atlantic and Pacific Company, he claimed, would not be renewed.

When the resignation of General Eckert became known on Wall Street, many rumors were set afloat. That most generally credited was that General Eckert was to join the proposed new telegraph combination, to be composed of the New York, Lake Erie and Western, the Baltimore and Ohio, the Pennsylvania, the Philadelphia and Reading, and other railroads, under the recent Florida decision, and organize an opposition to the Western Union, first making an effort to have Congress pass a general law to permit railroad companies to combine for such purposes. As a guarantee of the truth of this report, it was stated that General Eckert had already distinguished himself as a manager of opposition telegraph companies, the Franklin and Atlantic and Pacific Companies, being his special schemes. Neither General Eckert nor the officers of the Western Union Company would converse on the subject.

General Eckert was Superintendent of Military Telegraph of the Army of the Potomac, having been selected by President Lincoln and Secretary Stanton. In 1864 he was made Assistant Secretary of War, which position he retained until August, 1866. He then became superintendent of the Western Union Telegraph Company, and President of the Atlantic and Pacific in 1874.

A Benedict.

In the last column of the tenth page of this issue will be found the announcement of the marriage of the Editor of THE OPERATOR. The interesting event took place at Greenwich, Conn., on Tuesday, March 4th, and the "happy pair" left the same afternoon for their new home at Orange, N. J., fifteen miles from New York. The Greenwich Observer, referring to the matter, says:

"An interesting wedding took place last Tuesday morning, at the residence of Mr. Wm. Allen, on Arch Street. The contracting parties were Mr. W. J. Johnston, of Orange, N. J., and Miss Martha Allen, daughter of Mr. Wm. Allen. The groom is the Editor and Proprietor of THE OPERATOR, a paper devoted to the interests of telegraphy, and Publisher of 'Lightning Flashes' and other books of a like nature. The bride was richly attired, and presented a fine appearance. The ceremony was performed by the Rev. C. R. Treat, and the few words were soon spoken that made the happy pair man and wife. After the ceremony and hearty congratulations of the friends present, refreshments were served, and the newly married couple took the two o'clock train for Orange, where Mr. Johnston has a house elegantly furnished, which will be their future home. That the light of their happiness may never grow dim, is the wish of their many friends."

The intended marriage was kept very quiet, few, even personal friends, having been informed—

many of whom will now hear of it for the first time. Exception was made, however, in one case, and this called forth so pleasant and graceful a congratulatory letter that the temptation to publish it here is too strong to be resisted:

MY DEAR JOHNSTON—I need scarcely say that I am extremely gratified to hear that you are about to be married, and more so, because you will make so excellent a choice. I am sure you will live very happily, and that the seclusion of your home will be far more comfortable for you, and enable you much better to pursue the literary work in which you have already made such splendid headway. I think I ought also to congratulate the young lady, for one who has made so affectionate and dutiful a son can never be a bad husband. I remember with what tenderness I have heard you speak of your mother, and reflecting now on this one excellent trait, and the young lady's natural qualities—together with the example afforded by her parents' long wedded life of unbroken happiness—I am sure that both of you cannot be else than truly happy.

Outside of sentimentalism, though, there are numberless responsibilities which come to us with wedlock, and to all of these, too, I wish you a successful termination. However, in these little trials you will find ample support in the independence and spirit of self-reliance which served you a few years ago, when, rather than surrender a principle, you gave up a good paying situation to cast your lot with THE OPERATOR—which was then scarcely known—and made it ultimately a success.

To me there is something fascinating in "throwing the slipper," and I learn many a lesson in contemplating the deep confidence with which my friends plunge (after me) into the strife and turmoil of life. There is material to melt even the hardest heart in seeing a fair young girl standing upon the brink of the vast ocean of matrimony, where many a bright and hopeful life has been wrecked, conscious of the numberless risks, but still content to leave her home and friends to embark with him whom she loves, while in her unwavering confidence she stoops not to consider nor "asks not whither, cares not why." This exquisitely tender experience comes to a man only once in a life-time, and he feels it for only one person, nor forgets it until life becomes immortal. I know you well enough to feel assured that nothing in this happy experience will be lost upon you, and I hope you will both be spared good health to enjoy the ripening of its many fruits.

As this is the last letter which I can address to you as a "single man," I should like to be commended to the soon-to-be Mrs. Johnston, and to say to both of you: May you always travel only onward and hand in hand, always in the golden sunshine of life; may the benedictions of your friends and the favors of Fortune shower upon you, while little yellow-haired, blue eyed children scatter blooming flowers in your path.

Ever sincerely, your friend,

The Cincinnati Times of a recent date contained an illustration of the working of an ingenious device for preventing the desecration of graves. On the left of the picture is seen a representation of a corpse encased in a casket and interred. Under the back of the body, and resting on the bottom of the coffin, is a small machine connected by two wires with a building on the right. The gentleman in the casket is brought into close relations with an alarm bell and an indicator in the building. As soon as the corpse is disturbed, the bell sounds an alarm, and the grave is indicated. If either of the wires be cut anywhere, the same result follows. The indicator and alarm bell may be stationed at the residence of the sexton, or other person in charge of the cemetery, or they may be placed anywhere else, so that an attempt to tamper in any way with a body is instantly telegraphed to those whose duty it is to protect the dead after burial. This useful little toy can be manufactured and sold for \$2.50.

The Commotion at Topeka.

The dispute between the Kansas Legislature and the Western Union Telegraph Company ended in a rather ridiculous manner. Manager Smith, of Topeka, had been in the custody of the Legislature for refusing to exhibit telegrams demanded of him by the House, and it was announced that the telegraph company proposed to make this a test case. But this commendable proceeding the Legislature of Kansas has prevented by running away from its prisoner in sheer fright. The announcement in a newspaper that Judge Cooley had just published an opinion maintaining the view that telegraph messages are strictly inviolable, had the effect of throwing the honorable members into a panic, and the operator was released at once. The practical result of the controversy is to leave the company the victor, though not in the courts. When the Western Union wants to make a test case it will do well to pick out a Legislature with a backbone.

The *Topeka Commonwealth* of March 7th contained an editorial on the Smith case, in which it said: It is clear that Mr. Randolph's Committee acted in undue haste in reporting Mr. Smith as having refused to appear before the Committee, when he was not guilty of contempt or even disobedience at all. And it is equally clear that the House acted most inadvisably in ordering Smith into custody. It is due to Mr. Smith, to the Telegraph Company, to the House itself, and to the public, that some proper action be taken at once. The committee, by its own course lost all opportunity to get legal and proper possession of the telegraph messages if they were entitled to them under any circumstances; and to keep Mr. Smith in limbo until final adjournment without action, is a full confession that the committee cannot meet and answer the position taken and argument presented by Mr. Smith's answer. We have already mentioned the fact that Mr. Smith's answer was written by Judge W. C. Webb, of this city, and that he had been highly complimented therefor, not only by the Telegraph Company, but by the legal profession generally. Since then we have been shown the February number, 1879, of the *American Law Register*, published in Philadelphia, which contains an article by Judge Cooley, (author of Cooley's Constitutional Limitations), in which Judge Cooley goes to the fullest extent in declaring that telegraph messages are inviolable in the possession of the Telegraph Company, and that neither courts nor Legislatures can legally compel their production, to be used as testimony in any case where neither the sender nor receiver is a party. Mr. Randolph will do well to duly consider his action and to relieve himself and the House from embarrassment.

This stirred up the Legislature so much that when the House met at 10 o'clock the Investigating Committee introduced a resolution directing Mr. Smith's discharge, which was unanimously passed, and the prisoner of State was at once liberated.

Mr. Smith was the hero of the hour during his term of confinement. Not a day passed but that he received many messages from his associates from all parts of the Union, congratulating him on his pluck, and from his superiors, including President Green, Vice-President Stager, Assistant-General-Superintendent Clowry, Superintendent Baker, and many others, and he was visited daily by hundreds of sympathizers. The Topeka operators had to work night and day during Mr. Smith's absence. Mr. W. H. Woodring, chief operator of Kansas City, arrived March 2d to help out.

The Troy Operators and Plug Factories.

In last issue of THE OPERATOR, X. Y. Z. in Albany, after commenting upon the fraud Noble and his performances in Troy, says: "We would like to tell how the telegraphic fraternity of Troy sat still and saw their profession disgraced by these proceedings without saying a word, but we forbear." Now isn't it just barely possible that Mr. X. Y. Z. doesn't know what he is talking about, and wouldn't it be well for him to take a trip up the river six miles, and get acquainted with the telegraphic fraternity of Troy, and learn what they have done and are doing before he begins to pick them to pieces in that style? The boys here each and every one have done all in their power to break up the three or four plug factories which have started here lately, and it has been indirectly through their efforts that they all have been broken up. Troy had become too hot to hold Noble, and he knew it, and dug out in time to save himself, but not until he had victimized some of those not posted; and no doubt if

another fraud started a shop to-morrow, notwithstanding the article which the boys succeeded in getting printed in one of our dailies, he would catch a few ambitious ones and beat them. But we could not reach far beyond our own acquaintances, from the fact that the newspapers would not print a word against the plug factories so long as said factories would advertise with them. A representative of one of our leading and most independent papers told the writer (a particular friend), "It's no use—they won't allow me to say a word so long as that 'ad' remains in the paper. If you can induce them to stop advertising I may slip in a shot for you." We all told our friends just what these humbugs were, and just what their promises amounted to, and asked them to warn others against them, and in that way reached all we could, and prevented a good many from going to these rascals.

Now while on the subject, and to show we are in earnest, I would like to make a statement through these columns, hoping it will reach the parties it is intended for. There is now in Troy an operator, not directly connected with the Western Union Co., who is teaching telegraphing. We have agitated the question among ourselves, and although a few are lukewarm on the subject, seemingly feeling a disinclination to take hold of the matter on account of his being an operator, and excusing it as "satisfying a whim," etc., yet, we hope to convince those few of their duty in breaking up the business altogether, under penalty of exposure through this medium. This is the only case where the boys have failed to act together, and as a unit, to stop any attempts at manufacturing plugs in Troy, and we hope this one will be stopped before another issue of our good friend THE OPERATOR. "A word to the wise, etc."

TROJAN.

A Chronometer that Cost \$60,000.

A correspondent sends us the following story of how John Jacob Astor overreached himself on one occasion by petty meanness toward one of his employés, and thinks that the Western Union is doing pretty much the same thing every day. A captain in Astor's employ had sailed six voyages to China without a chronometer, depending on "dead reckoning" and "lunars." Just before starting on his seventh voyage he suggested to Mr. Astor that it would be safer to have a chronometer.

"Well, get one," said the merchant. The captain did so, and entered its cost in his account current. When Astor's eye fell upon the item he drew his pencil through it. The captain expostulated; said Astor: "I told you to get one; I didn't say I'd pay for it." The captain severed his connection with Astor then and there, went into Wall Street, engaged with other owners, and before night was in command of as fine a ship as ever floated in New York's beautiful bay. In three days she was ready for sea, and set sail.

At the same time Astor's ship, under the command of a new captain, set sail also. They had a race for Hong Kong, but the captain, who, as he used to put it, had discharged John Jacob Astor, by keeping the men at the braces took advantage of every puff of wind, and won by three days. Then there was lively work. The ship was loaded in the shortest time possible, and before Astor's vessel, which had arrived meantime, was half loaded, our captain weighed anchor, and, with a full cargo of tea, set sail for Sandy Hook, arrived in good time, got his ship alongside the wharf, and began hoisting out his cargo, which was sold by auction on the spot.

This glutted the market, for the consumption was comparatively small in those days, and when Astor's ship came in prices had fallen. Two days later, as the captain was sauntering down Broadway, he met his former employer. "How much did that chronometer cost you?" asked the latter, "Six hundred dollars." "Well," said Astor, "that was cheap. It cost me sixty thousand dollars." The merchant and the captain have long since paid the long reckoning, but that chronometer is still a good timekeeper, and a treasured relic as well.

A Novel and Curious Instrument—The Tellectroscope.

M. Senlecq, of Ardres, has recently submitted to the examination of MM. du Moncel and Hallez d'Arros a plan of an apparatus intended to reproduce telegraphically at a distance the images obtained in the camera obscura. This apparatus will be based on the property possessed by selenium of

offering a variable and very sensitive electrical resistance according to the different gradations of light. The apparatus will consist of an ordinary camera obscura containing at the focus an unpolished glass, and any system of autographic telegraphic transmission; the tracing point of the transmitter intended to traverse the surface of the unpolished glass will be formed of a small piece of selenium held by two springs acting as pincers, insulated and connected, one with a pile, the other with the line. The point of selenium will form the circuit. In gliding over the surface, more or less lightened up, of the unpolished glass, this point will communicate, in different degrees, and with great sensitiveness, the vibrations of the light. The receiver will also be a tracing point of black lead or pencil for drawing very finely, connected with a very thin plate of soft iron, held almost as in the Bell telephone, and vibrating before an electromagnet, governed by the irregular current emitted in the line. This pencil, supporting a sheet of paper arranged so as to receive the impression of the image produced in the camera obscura, will translate the vibrations of the metallic plate by a more or less pronounced pressure on that sheet of paper. Should the selenium tracing point run over a light surface the current will increase in intensity, the electro-magnet of the receiver will attract to it with greater force the vibrating plate, and the pencil will exert less pressure on the paper. The line thus formed will be scarcely, if at all, visible; the contrary will be the case if the surface be obscure, for, the resistance of the current increasing, the attraction of the magnet will diminish, and the pencil will leave upon it a darker line.

A New Superintendent for the B. and O.

Considerable anxiety was manifested as to who would be the successor to Robert Stewart, late Superintendent B. and O. R. R. telegraph lines. From among about twenty applicants for the place Mr. C. A. Tinker, late General Superintendent of the A. & P. at Chicago, has been selected. His headquarters will be at Baltimore. Referring to the appointment, the *Chicago Tribune* says: "This appointment is believed to have more significance than is generally supposed. It is claimed that Mr. John W. Garrett, president of the Baltimore and Ohio Railroad, was the principal advocate for the new railroad telegraph bill recently passed by Congress. Before the Atlantic and Pacific Telegraph Company was gobbled up by the Western Union, it depended mainly upon the Baltimore and Ohio railroad, and Mr. Garrett is said to be anxious to contest the right of the Western Union to this line. Mr. Tinker is well posted on all the affairs of the Atlantic and Pacific Telegraph Company, and will be a great aid to Mr. Garrett in carrying out this scheme. The Baltimore and Ohio some time ago threw the independent express companies off its line, and established an express bureau on its own account, and it no doubt means now to take advantage of the new law, and do a general telegraph business on its own account also, using the Atlantic and Pacific wires and apparatus. His road is better situated than any other to give the new law a trial, and attempt to do a general telegraph business. It has complete telegraph lines from Baltimore and Washington to Chicago, Cincinnati, St. Louis, and other Western points, and can therefore not fail of getting a large patronage."

A Good Suggestion.

I have just been reading Operator's "Plea for Fewer Students" in your issue of Feb. 15th. He is very right when he says "railroads are the nests in which are hatched the vast number of novices who swarm around and overshadow our profession like a cloud." It is on the railroad telegraph superintendents that the "Plea for Fewer Students" should be pressed. They have it so much in their power to keep students at a distance, and if some concerted effort were made, no doubt most of them could easily be induced to issue an order reading something like this: "From this date no students will be allowed on this line, and operators are instructed not to send business to them,"—the same as our superintendent recently issued. I would suggest as a practical way to do something toward putting a "quiescent" on the student that an organization be formed looking toward an assessment to defray the expenses of one or more persons while visiting superintendents and operators and making personal appeals for assistance in ameliorating the operators' condition; or an organization to devise

the best ways and means for gaining this end. An occasional letter written against the practice of operators taking students is productive of but small good. What we want is some one to take the bull by the horns, and at least attempt his overthrow—metaphorically speaking.
FIRTH, N.E.B., Feb. 28th.

OPERATOR 2D.

Not Copperplate Copy.

Mr. Charley E. Stagg, of Elmira, was sick one day recently, and the noon report from New York was so badly mixed in receiving, *The Gazette* says, that when, as will ever happen, as long as telegraph operators are human and newspaper readers insist on having the latest news, the young man who usually receives the afternoon Associated Press reports for the *Gazette*, was detained at home by sickness, and when the "circuit" was opened and Schleicher commenced slinging out "copy," nobody was at hand who felt equal to the emergency, or who wanted to tackle the job of taking the report at the lively rate those bang-up New York operators send it out. Something must be done. "Indications" had come—"rain"—followed by something—had already flashed along over the wires, and a special from Paris had just been commenced. At this juncture a juvenile lightning-jerker grabbed a pencil, and the suspense was over for the present. Everything went along all serene, until the first seven pages of copy reached the composing-room, after having been doctored by the news editor to the best of his ability. Seven "takes" were given out in regular order, and seven compositors stood staring at their copy and squirting tobacco juice between their teeth. Seven minutes elapsed, and the seven compositors still retained the self-same positions. Seven statues couldn't have stood any stiller, and seven women couldn't have been found who could have looked any crosser. At last one disgusted individual over in the corner of the room confidently remarked to his companion in misery:

"I never saw such a puzzle since I quit clerking in that Chinese laundry!"

Foreman (who had attended the Pinafore entertainment, and saw a good opportunity for a joke) "What! Never?"

Profane compositor (who didn't happen to be posted up in Pinafore jokes)—"No! I'll be d— if I ever did. I've stuck type on the *Tribune*, translated short-hand reports into readable matter, conversed in seven different languages, and marked tea-cheests for a living; but I'll be —!! —!! —!!"

The fellow who attempted to take that report, adds the *Gazette*, will have an awful pile of swearing to answer for when those seven compositors are called up and Gabriel commences to call off the black marks recorded against them February 26th, 1879.—*Elmira Gazette*.

Romance of the Electric Light.

Mr. G. A. Keyworth, F. C. S., writes to the *London Times* in the following interesting vein upon this subject:

"When we burn a branch grown last summer we obtain in form of heat and light a portion of the power of the sun which was expended in forming that branch. So also with coal; each fire and gas flame supplies sun power spent far back in the remote past in forming the plant of which coal is composed. Hence coal producing countries are the heirs of a splendid inheritance of stored up force at once portable, and to be unlocked with a spark. But no new coal is formed, so that we are like men who live upon their capital. Each stroke of the pit in the colliery undermines our power. As a means of saving coal we look hopefully toward the electric light now arresting attention. Coal is changed in the engine furnace first to heat, and then to steam motion. This being conveyed by driving bands to the dynamo-electric machine, is transformed, by an exquisite arrangement of magnetism and motion, into electricity. Conducted thence by wires to the electric lamp it appears again as sunlight which streamed forth on the earth in the illimitable past. A given quantity of coal can in no other way be made to yield so much light. Sir William Armstrong has harnessed a neighboring waterfall to a dynamo-electric machine, thus lighting up his library, and in so doing has in the form of light a portion of sun force expended as heat in lifting from the ocean the rain clouds which gave birth to that waterfall. This foreshadows a vast economy of coal, that precious buried treasure on which England thrives."

Religious Services by Telephone.

When the telephone was first introduced it was laughingly said that people need not go to church, but could sit in their own houses and have the sermon and the services wafted to them telephonically. This was actually done, for the first time, we believe, at Lowell, Mass., recently. Twelve persons visited the central telephone office one Sunday morning, at the invitation of Manager Glidden. The office was connected by telephone with the Freewill Baptist Church, an instrument being arranged out of sight behind the pulpit. The organ voluntary rang out clear and sweet upon the ears of the telephone listeners, and the reading and praying—even when spoken in a whisper—were distinguished word for word, then came the voice of the minister—"We will sing the 428th hymn, omitting the third verse," and after a brief interlude by the organist, the voices of the congregation were heard in pleasing melody. After reading a batch of notices the text was announced as a portion of Matthew 16, 3: "But can ye not discern the signs of the times?" It was a discourse written evidently for the occasion, and went to establish the truth proclaimed by Sir Brewster that "Science ever has been, and ever must be, the safeguard of religion." What science had already accomplished for the world and what religion owed to it were dwelt upon with much force. Before concluding, the minister spoke of some of the wonderful inventions of the day, and made special reference to the phonograph and telephone. During the discourse there was the least possible difficulty in distinguishing the remarks of the preacher when his earnestness in his subject impelled him to emphatic sentences. The moderate tones were all plainly heard, as were also the concluding organ selection as the congregation passed out, and the muffled monotonous tones of the retiring worshippers.

An Extraordinary Libel Suit.

A novel suit has recently been decided in this city which arose out of the publication of a "bulled" dispatch. It appears that the New York *Evening Post* some time ago published an Associated Press report, giving the name of a justice of the peace as one of the criminals that had been brought before him for trial. The ridiculous blunder was occasioned either in telegraphing or transcribing. When the attention of the editor of the *Evening Post* was called to the obvious blunder he promptly published a conspicuous and generous correction of the grotesque error. This should have satisfied any reasonable man, but failed to placate the irate justice of the peace, who instituted a suit for libel, showing by his action how easy it is for litigious, cross-grained people to annoy a sincere, honest, well-meaning editor—one anxious to atone in every possible way for a wrong done, even unintentionally. After a prolonged trial, the *Post* was sentenced to pay a fine of six cents—a verdict that was, no doubt, in a large measure influenced by the charge of the presiding judge, Van Brunt, who, like many of his judicial colleagues throughout the country, gave a just exposition of the law of libel. He held that where there is no malice in the publication, and no actual injury, a plaintiff is not entitled to any damages.

Dashes Here and There.

The phonograph talks Irish. And then it is a Mike-rophone.—*New Haven Register*.

Edison's work on instruments for magnifying sound is an instance of misdirected genius. The community wants an instrument to absorb sound. A machine that should prevail against a crying baby or an Ohio orator would put its author on the highest pinnacle of fame.—*Chicago Tribune*.

Acknowledging the receipt of a copy each of "Lightning Flashes" and "Christmas Evergreens," a correspondent says: "Allow me to say that I found both books particularly interesting, and the wit and genuine humor they contain indicates the fact that electricity has greater divisibility as a sharpener of the intellect than as a producer of light (as yet!)"

Most boys believe that the humming sound made by the telegraph wires is caused by the message hurrying along to their destination. Most men be-

lieve that this sound is caused by the vibration of the wire in the wind. A writer in an Austrian journal, however, calls attention to the fact that one who gives close observation to both the wire and sounds will find that the latter make themselves obvious likewise when there is total absence of wind: and in a quiet morning in winter, when the wires appear covered with frost to the thickness of a finger, they nevertheless carry on lively vibrations and swinging, while the air is totally quiet. According to this writer, therefore, the vibrations are due, not to the wind, but to the changes of atmospheric temperature, and especially through the action of cold, as a lowering of the temperature induces a shortening of the wires, extending over the whole length of the conductor. A considerable amount of friction is produced on the supporting bells, thus inducing sound, both in the wires and the poles.—*Detroit Free Press*.

The following instance of smart operating is quoted in the *Journal of the Telegraph Electrical Society, Melbourne*. It is one of those things which may be quite true, but which it is comforting to have thoroughly well authenticated before giving them implicit credence. "On Saturday last, says the *Otago Times* of April 4th, Mr. L. R. Jagger and Mr. B. H. Keys, two operators connected with the Dunedin Telegraph office, had a trial of speed, the former operating, the latter receiving. Mr. Jagger telegraphed for half an hour a political speech, and, when time was called, the result for the thirty minutes was 1,252 words, or within a fraction of forty-two words per minute. This was received by Mr. Keys, and written in a clear, round, legible hand. This shows the speed which, by practice, may be accomplished. To write for half an hour at the rate of forty-two words per minute is no mean feat, but to keep up that speed at the telegraph key is wonderful. The long message was read by Mr. Keys with only two 'breaks' or interruptions. Mr. Jagger for a shorter time accomplished a greater speed than this, sending on one occasion an ordinary message of 126 words in scarcely two minutes. We understand the test above alluded to arose out of a bet, and the operator, who was then crowned with success, has since been crowned with a new hat."—*Electrician*.

Echoes from 187.

James H. Largay is subbing on the night force.

We regret the loss Mr. D. Harmon, Jr., has sustained by the death of his infant son.

Martin S. Sullivan has been appointed chief of electro-motive, vice Con McCarthy, deceased.

There seems to be an impression in New York office that the average man should read a morning paper through in ten minutes.

Mr. A. J. Bunton, of 575 Broadway, says truly "that large bodies move slowly," and so they do, so they do, especially when they're going to raise your salary.

An annunciator, connecting the operating room with the Vice President's office, has been placed at the manager's desk. It is an additional incentive to the ladies on the West to gaze in that direction.

In your issue of March 1st there appears an article signed "Romeo," charging me with being a "plug manufacturer." I wish to say that all it contained in regard to 321 Court Street office was a downright falsehood. Any person that has ever seen this office and read that article has said the same. To those who have never had the pleasure of seeing it, I would say that our office room is eight feet by six (about the size of a "bull's eye" in Creedmoor target). We have three desks, five messengers, closet, and two operators in that space. Now where am I going to put four students? It is a fact that we haven't room for a clock. Knowing your sense of justice, and noticing the impartial manner in which you act between operator and operator, I feel confident this will receive the same attention as "Romeo's."

"MARSHALL."

321 Court St., Brooklyn.

A correspondence of a most interesting character took place recently between H. McGonegal, manager of 819 Sixth Avenue, and Supt. English, late of 791 Broadway. Mr. Belmont, of the former office, and Mr. Mesler, of the latter, officiate from 5 to 12 p. m., and a difficulty arose between these latter parties which could only be adjusted by a "statement." Mr. Belmont made his, and "respectfully referred" it to his manager, who then made his, and "very respectfully" forwarded it direct to Supt. English for investigation and report, and a request to return

papers. This gentleman, on receipt, promptly indorsed it, with a "respectfully referred" to Mr. Mesler for his explanation, and return of papers. The latter gentleman immediately set to work, and, after a week's labor, "most respectfully" returned the documents to the Superintendent, who, after a critical perusal, which was apparently a satisfactory one, in the "very most respectful" manner returned them to Manager McGonegal, who filed them away for future reference. There is a rumor to the effect that Rule 15 was at the bottom of the trouble, but the writer has received trustworthy information which inclines him to believe that the real trouble was because Mr. Mesler failed to give the regulation O. K. before he signed for a message. However this may be, the service has been very much benefited thereby, and that was the primary object.

Mr. J. W. Simonton delivered a lecture on the "Associated Press, or How we get our News," at Cooper Union, on Saturday evening, March 1st. "An erroneous impression prevails," said Mr. Simonton, "that the association lives by the Western Union. They are as independent of each other as the merchant and his customer. The Western Union gives certain advantages to the Associated Press, just as any merchant would to a customer who deals largely with him. But there is not a scrap of contract to show that the Associated Press should have advantages over other competitors, neither is it the champion of the telegraph company. The postal telegraph movement which has been proposed cannot ever lessen the power of the Associated Press should it be carried into effect." Mr. Simonton explained every detail of the machinery employed in the collection and distribution of news, and showed the great benefits conferred upon the nation by the agency of the Associated Press. He also claimed that if the Government should take the telegraph business of the country and work it in connection with the post-office, that it would practically kill the papers in the smaller towns and villages by making a uniform press rate. Under the present arrangement with the Associated Press these papers receive the news for just what their circulation enables them to pay—some getting the entire news for a week for \$15—the cost to the New York papers being \$500 to \$1,000. Mr. Simonton's remarks were well received and frequently applauded. His delivery was very good, being distinctly heard in all parts of the large hall.

PERSONALS.

C. S. McCoy, formerly of Boston, is subbing for Metcalf, of Burlington, Vt., on night press.

Mr. C. H. Boynton has been working in the Los Angeles, Cal., W. U. office since January 1st.

Millard F. Griffin has accepted a position with the A. & P. Co. at Baltimore. Millard says there is no place like home.

Will William W. Weed, telegraph operator, please give me his name and address through this paper, and oblige M. A. Roe.

Mr. John A. Smith, of Michito, Kansas, and Miss Vashiti B. Longfellow, of Xenia, Ohio, were married by telegraph on the 6th inst.

J. A. Parker, of Rutland, Vt., was elected Grand Master of the Grand Lodge of Vermont I. O. O. F. at the recent session of that body.

Frank J. Connor has resigned his position of chief operator of the A. & P. line, Baltimore office, to occupy a position as operator in the city fire-alarm department, same city.

The chief operator of the Pittsburgh division of the Baltimore and Ohio R. R. has issued an order to all operators directing them to dismiss all students they may have at present, and not allow any more to learn telegraphing.

The many friends of W. B. Randall, late dispatcher on the Kansas Pacific Railroad at Kansas City, Mo., will be glad to learn of his appointment as chief train dispatcher of the Denver and South Park Railroad, with headquarters at Denver.

Messrs. S. H. Smith and J. Wilson, of the Dominion Telegraph Company, Halifax, started out recently from Truro on snow-shoes to repair the lines, which had been damaged by the storm. They made in their tramp of twenty miles an average of four miles an hour.

Mr. Archie Clark, telegraph lineman for the N. Y., L. E. & W. R. R. at Jersey City, has been appointed chief of repairs for that road, as well as for the W. U. Tel. Co. in the Ninth District. This is an

important position, and Supt. Holmes could not have found a more competent or worthy man for it. The appointment took effect on the 1st of the present month.

Mr. James S. Lowell, lately of Newburyport, Mass., has resigned, and is now engaged in telephoning in Denver, Col. Chas. A. Richardson takes his place as night man for the Eastern Railroad. Wm. A. Smith goes to Ipswich, nights, in place of Geo. W. Starkey, transferred to Saco.

Miss Jennie Moore, of Mankato, Minn., who has just been appointed manager at Tipton, Iowa, is the latest arrival on the C. & N. W. R. R. The many operators of the Iowa division heartily welcome the arrival of Miss Moore, as she combines first-class ability with rare loveliness of person and disposition.

A skeleton, supposed to be that of a telegraph operator named David Smith, was recently found in an abandoned lead mine at Ellenville, N. Y. Smith mysteriously disappeared in February, 1866, and is believed to have been murdered. The man who is believed to have murdered him became insane years ago from remorse, and died.

I am creditably informed that there is an operator in Troy who is teaching plugs, and that his work is sanctioned by the leading Troy telegraphers, who, instead of endeavoring to break up the business, are upholding him in it, and trying to screen him. My information comes pretty straight.

INQUISITIVENESS.

"Old Man" Moore, whom the yellow fever scare ousted from Houston, Texas, having turned up in San Francisco, the question arises, "How did he get there?" The boys in Texas give it up. Another arrival in San Francisco is Billy West, late of New Orleans W. U. Billy is an attache now of one of the palace billiard rooms in the Golden Gate city.

HAMILTON & NORTHWESTERN RAILWAY.—We have got a third dispatcher now in Hamilton (Ont.), S. N. Parsons. "S." is a rusher, and knows his business. A. A. Farmer is still at Burlington, and trying to get every one to take THE OPERATOR. George Dench does the H. & N. W. Railway biz at Caledon East, and W. P. Paton the T. G. & B. biz. Both are first-class fellows. J. H. Bell is at Tottenham, and Jack Hartwell at Glencairn.

Having read with pleasure "A Plea for Fewer Students," I for one heartily acquiesce with "Brother Operator" in regard to the allusion made to reduce the vast accumulation of new operators. I have had several applications to learn telegraphy, and have in every case refused—perhaps not particularly with this motive in view, but as I read it, I am certainly led to believe that such should be the decision of every one. Mc.

Mr. J. L. Horn, late of Chicago, has arrived in this city, and will enter the service of the Western Union Telegraph Company. Last summer, upon the death of the operator at New Orleans, Mr. Horn volunteered to take his place, and to the end remained unflinching at his post of duty. Waco has always a warm welcome for such men. A branch telegraph office, with Mr. Will Gribble as operator, is soon to be established in the McLennan House.—Waco (Texas) Sun.

We are pleased to notice the promotion of Mr. Charles P. Philbrick, of Doniphan, Kansas, to be assistant to Mr. H. W. Forman, train dispatcher and superintendent of telegraph at Atchison, Kansas. Mr. Philbrick is a good operator, combining extraordinary ability with some years of experience in railroad and telegraphic matters, and has already invented a repeater which has been worked successfully. Mr. Forman is to be congratulated upon his happy choice of an assistant, while we hope to see Mr. Philbrick gather all the fruits of his well-merited success.

A. & G. R. R.—The genial B. F. Dillon is chief operator at Savannah, Cortez Jefferson Mapp night chief, and D. J. McLoraine, F. O. Roose, and H. E. Hutchins operators. Alexander Harkness is British Vice Consul at "S." Wm. Turner works the N. Y. wire and signs T. John Clark is at Fleming, and B. W. Patterson at Dupont. Mrs. S. C. Wheeler is day operator, and a very good telegrapher. O. D. Parker is chief operator at Tebeauville, Dick Walker is at Jesup, Ed Ives at Quitman, L. Gonzales at Valdosta, and Charles Williams at Thomasville. It is rumored that Mr. Graves, of Bainbridge, who is an artist at electro-plating, is shortly to be married. He has the best wishes of his friends on the A. & G. line. ..

Theodore Carrigan, an operator in the Western Union main office, Chicago, Ill., died in that city March 2d of quick consumption. Mr. Carrigan was in his 30th year, and had been connected with the business about twenty years. He served as messenger in Freeport, Ill., when but nine years of age. Soon after he went to Galena, where he remained until he was 13. He then went to Cairo, Ill., at which place he remained until he went to Chicago, October, 1876. Resolutions of respect for his memory were passed by his fellow operators, in which they cheerfully bear witness to the many excellent qualities of the deceased, his kind sympathies and constant devotion toward those under his care, and to his noble and laborious efforts (almost to the last) in their behalf. A resolution was also passed thanking the officials of the C. & N. W. R. R. for the courtesy of a special car for the transportation to and from Rose Hill Cemetery of the relatives and friends of the deceased.

One Robert M. Hughes, late a "professor" in a Cincinnati telegraph institute, recently published a challenge in the *Enquirer* of that city addressed to "the telegraphers of the United States and Canada," but more particularly to Mr. Richard Archdeacon, in which he desired to "compete for the honors of merit in this business, so far as receiving and making a fine copy are concerned." A number of the Cincinnati operators replied accepting the challenge, Mr. Hughes to back it with \$100, and they to deposit a like amount. This Mr. Hughes would not accept, and so the tournament did not come off. Hughes subsequently called at the Western Union office and acknowledged that he was no operator, only wanted to "get up excitement, so he could draw a big crowd to witness the test, and thereby raise a large fund to be donated to the Electrical Society." How noble! He said he was "sorry he had done it, because he supposed all the men would be down on him," but was immediately assured that they had never been up on him. The boys finally, after much trouble, got him to sit down at a table, where he proceeded to break a moderate sender seven times on fifteen words. Of the word "creator" he got cre; of the word "chancellor" after breaking six times he got nothing. He then requested sender to send "train orders," as he was up on that. His "fine copy" looked very much like Selden's "copper-plate." Thus ends the story, with the small part of the U. S. outside of Ohio still to hear from, to say nothing of Canada! LOGAN.

MARRIAGES.

CLAGETT—HARKNESS.—February 16th, at the parsonage, C. E. Clagett, of the A. & P. office, to Miss Mollie Harkness, both of Baltimore.

BRADY—MILLER.—February 16th, at Horse Branch, Ky., by Rev. James Cauen, G. L. Brady, operator P. & E. R. R., to Miss Jennie T. Miller.

MUMAUGH—MILLER.—February 25th, at Chicago, J. E. Mumaugh, operator in B. & M. in Nebraska general office, Omaha, to Miss Frankie B. Miller, of Eaton Rapids, Mich.

HUTCHINSON—WILLIAMS.—At Greensburg, Pa., on Tuesday evening, March 4th, J. B. Hutchinson, assistant agent and operator of Dunbar S. W. P. R. R., to Miss Kizzie Williams, same place.

JOHNSTON—ALLEN.—March 4th, at the residence of the bride's parents, Greenwich, Conn., by the Rev. C. R. Treat, W. J. Johnston, publisher of THE OPERATOR, to Miss Martha Armstrong Allen.

BLANCHARD—COOMBS.—February 27th, at the residence of the bride's parents, by the Rev. A. D. Baker, Mr. E. C. Blanchard, of the Kansas Pacific, at Brookville, Kansas, to Miss Della M. Coombs, of same place.

RYDER—WILLIAMS.—February 20th, at the residence of the bride's parents, Taunton, Mass., by Rev. Mortimer Blake, D.D., Austin G. Ryder, Associated Press Agent, formerly operator W. U. Tel. Co., to Miss N. Belle Williams, all of Taunton. No cards.

DEATHS.

March 6th, at Mobile, Ala., of pneumonia, William J. Cass, operator M. & M. R. R., aged 22.

February 28th, in New York City, of erysipelas, John Shannon Clift, aged 33 years. The deceased was a native of St. Johns, Newfoundland, and an ex-operator of the old New York, Newfoundland, and London Telegraph Co.

GOODYEAR'S POCKET GYMNASIUM.

The Most Complete System of Physical Exercise that has ever been devised for Home Practice.



Serious doubts exist as to the advantage to be derived from the more exhausting exercises of the gymnasium; there is, however, but one opinion among medical authorities as to the value of the milder form of physical culture known as light gymnastics; and it is the object of the invention which is here introduced to supply, in the most compact and useful form, all the apparatus required for the best development of physical power in both sexes and at all ages.

It is admitted that sound health and symmetrical growth cannot be secured and maintained for a prolonged period without a perfect circulation of the blood. Congestions of brain, or stomach, or liver, or other internal organs, must ultimately follow a life without activity—a life of partial torpor. The man of business, the professional man, uses the brain excessively, but neglects the body. By and by, brain and body break down. If the blood had been sent actively to every tissue and fibre by physical effort rightly directed, body and brain would not wear out in a century. What is true of the professional, or business man, is true of the woman in her home, the operator at his desk, the child in school. All these classes are employing the brain more or less actively, and all are exerting one portion of the physical structure while other portions are neglected. The right hand of the penman is over worked, as is the lower extremity of the sewing machine operator, while the muscles of other portions of the body, with all their interlacing network of nerves and blood vessels, are permitted to remain inactive and comparatively unused. The consequence of this unequal exercise is made apparent in many ways. There is deformity of the chest and back, a curvature of the spine, a flattening of the thorax, a lessening of the breathing space, a weakening of the heart's action and a general loss of vital power.

It is neither difficult, nor onerous, nor expensive, to keep the human frame in perfect condition by the means which are here indicated. The emotions attending the use of the tubes are only those of satisfaction and pleasure. Young persons enter into the exercises with the keenest zest, relinquish them with reluctance, and return to them when the appointed hour arrives with the liveliest expressions of delight. The brain-weary scholar finds ever-renewed exhilaration and mental elevation from their regular, daily use. The worn and weary woman acknowledges the sparkle and glow which comes from a few moments' daily practice with these health-giving appliances. Even the bed-ridden invalid, or convalescent, unable to walk, and without the power to take exercise in any of the ordinary modes, can find something of invigoration by toying with these life-giving tubes; while the active brain of the person whose toil throughout the day has banished sleep at night is lulled to repose by the equalization of the circulation which a few moments' exercise with these tubes induces.

Price List of Goodyear's Pocket Gymnasium.

No. 1.—For Children from 4 to 6 years.....	\$1 00	No. 4.—For Children from 10 to 14 years.....	\$1 30
No. 2.—“ “ “ 6 to 8 “	1 10	No. 5.—“ Ladies and Children, 14 years and up. 1 40	
No. 3.—“ “ “ 8 to 10 “	1 20	No. 6.—“ Gentlemen of moderate strength.....	1 30
No. 6.—With handles, screw-eye, and hook.....	\$1 75	No. 8.—For Gentlemen of extra strength.....	\$2 50
No. 7.—Used by Ladies, Children, or Gents.....	\$2 00	Goodyear's Patent Health Lift Complete.....	\$5.00

Nos. 6, 7 and 8 are fitted with a screw-eye and hook, to attach to the wall or floor. A pair of No. 7 (\$4.00), or 8 (\$5.00), make a Complete Gymnasium. Extra hooks, 5 cents each, or 60 cents per dozen. "BLOOD AND BREATH." By Prof. J. E. Frobisher, to accompany Goodyear's Pocket Gymnasium. Price 25 cents.

We send these goods to any address, post paid, on receipt of price.

The Goodyear Patent Health Lift.

The apparatus consists of five pieces: the Lifting Board, mounted on small rubber balls; two heavy Rubber Tubes about a foot in length, and two detachable Handles. Complete, it weighs about 8 pounds.

It may be used in a standing, sitting, or reclining posture. When operated in a standing posture, the head should be held erect, and when reaching downward, the knees should be flexed, observing not to bend the spinal column, either backward or forward.

When exercise for the muscles of the back is desired, it is safer and pleasanter to employ the sitting posture. This position, likewise, gives great freedom for either limb or arm movements. By occupying a low stool or ottoman, the largest liberty is obtained for bringing into vigorous and harmonious action the muscles of every part of the body. The extremities are thus warmed, the circulation equalized, local congestions relieved, and the vital forces stimulated. The supine position favors deep breathing, and secures an alternation of complete rest with each expenditure of muscular effort.

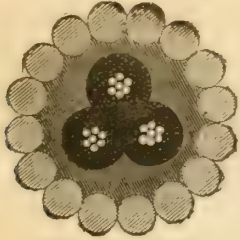
Health Lift Complete, Price only \$5.00.

Sent, express charges prepaid, on receipt of price, to any part of the United States or Canada.

W. J. JOHNSTON, P. O. Box 3332, New York.

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of the BISHOP GUTTA-PERCHA WORKS, begs leave to announce the acquisition of the exclusive right within the United States and the Territories thereof, to manufacture and sell Gutta-Percha Covered Wires of every description, under Letters Patent of the United States (No. 65,019), dated May 21, 1867, granted to Geo. B. Simpson, now owned by Clinton G. Colgate, for the use of Gutta Percha as a covering or insulator of wires for atmospheric or submarine telegraphic communications or for other electrical purposes, the validity of said Patent having been established by a decree made by the Circuit Court of the United States, held in the City of New York, dated Dec. 8, 1878.

The *Insulating Properties of Gutta-Percha* for Submarine Telegraphic Cables have been thoroughly tested for the past thirty years, and for subterranean purposes after many tests in Europe, and a continuous use in this country for seventeen years, its superiority is conceded over all other insulating materials and compounds.

Submarine Telegraph Cables, 50 varieties, one to ten conductors.

Submarine Telegraph Canal Cables—any number of conductors.

Aerial and Underground Cables of all styles. Hemp armor covered.

Lead Covered Telegraph Cables, one to seven conductors.

Office Cables, one to seventy-five conductors, gutta-percha and cotton-covered.

G. P. Insulated Wire of all sizes.

Fuse, Leading and Connecting Wires for submarine and mining purposes.

Marks' Compound Office Wires, various sizes for office, underground, and out-door use.

G. P. Office Wire, cotton covered.

Flexible Elevator Cables, any number conductors desired, of every style, and for all purposes.

Compressed Electric Cotton and Linen Double and Triple Covered Cordage, any style or pattern.

Burglar Alarm, Call Bell and Annunciator Wires, double cotton wrapped and saturated with any preparation.

Magnet Wires, copper and German-silver cotton, silk and fibre covered.

Copper Wires, specially covered for electrical lightning purposes.

Telephone Flexible Cords and Magnet Wires, finest and best manufactured.

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Manufacturer of

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Instrument and Office Wires, Flexible Cords, Annunciator and Burglar Alarm Wire, Elevator Cables.

All Wire used is thoroughly tested for conductivity, thereby insuring parity and regularity of resistance.

Sole Manufacturer of

Nickerson's Patent Tip for Flexible Cords.

Descriptive Circulars forwarded on application.

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Bell Telephone Company.

This Company was the first to introduce the Telephone. It furnishes instruments equal, if not superior, to any other, and is establishing Agencies in all parts of the United States.

It is the assignee and owner of all the patents granted ALEX. GRAHAM BELL, and these cover all forms of Telephone hitherto devised. Manufacturers and users of other Telephones are infringers upon the rights and property of this Company, and will be held responsible in damages.

The District or Telephonic Exchange System of this Company, by which parties in different places can be connected and converse, is in successful operation in Boston, New Haven, Albany, Chicago, St. Louis, Cincinnati, and many other places.

These exchanges can be advantageously introduced into almost every city and large town where there is a Telegraph Operator.

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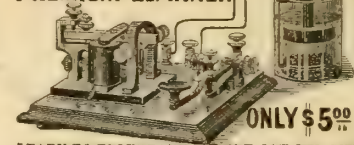
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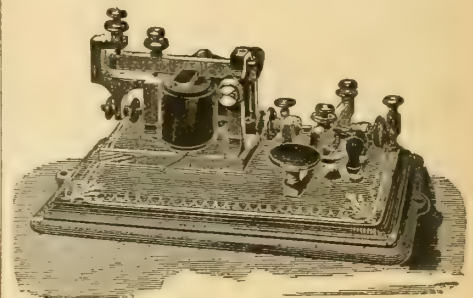
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No. 1 Outfit, including Instrument, one Cell Calland Battery, Chemicals, Roll of Office Wire, and an excellent Book of Instructions, \$5.00

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The OPERATOR

A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY.

VOL. X.

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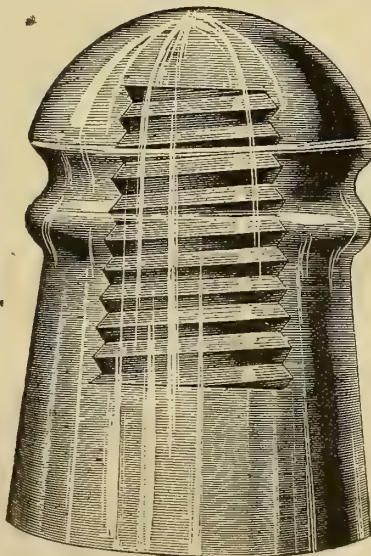
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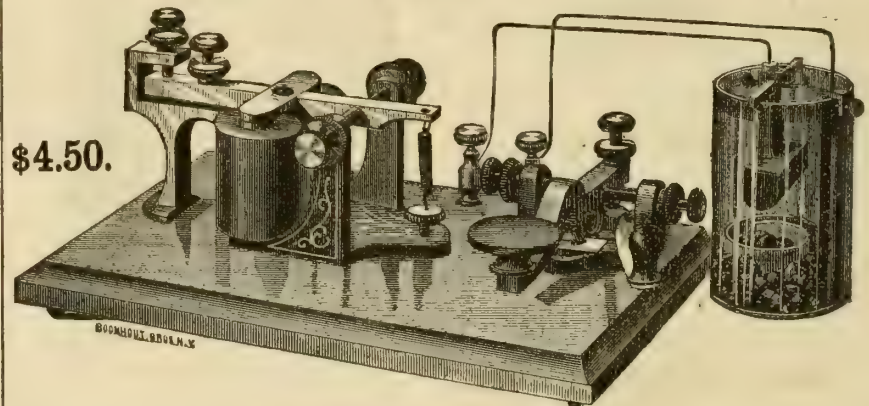
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THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

April 1st, 1879.

Volume X.

Whole No. 123.

A Reminiscence.

In the summer of '60 there dropped our way
A bird of passage, seedy and grey
With Florida mud and Ohio clay.

He was the seediest specimen of flesh and blood;
That ever lived since Noah's flood.

Well, he got a job—most any one could!
In those palmy days of the Brotherhood;

Those good old days forever fled
That haunt us like spectres of the dead.

When men were men, not hiring slaves,
And ruled by men, not grasping knaves—
Alas! for worth in unknown graves.

The chief stuck him down to the old press wire,
A heavy string and hot as fire!

Bob Hardy, who worked the other end,
Was the fastest man alive to send;

With a steady man, and a steady line,
He could whoop 'em up to 'bout forty-nine.

The boys told Bob to sush the "bum,"
And then crowded round to see the fun;

Bob started off at a lively gait,
About twenty-seven or twenty-eight;

But warming up, he slung 'em in
At a rate that made old timers grin;

Swift as lightning, firm as a rock,
Steady and sure as an eight-day clock;

Insulators were almost torn off from the poles,
While the plugs in the switch danced 'round in
the holes,
And they that stood by felt a pang in their souls.

For six long hours at his terrible gait,
'Tween forty-five and forty-eight,

Bob did his level best to rush
The "beat" the boys told him to sush;

For six long hours, serene and calm,
"His nibs" stuck to it like a man.

By Jove! 'twas grand to see the way
He stuck it down that summer day,
Without a break or a word to say.

We no longer laughed at his seedy clothes,
His muddy boots or brandy nose;

He had touched our hearts' vibrating chords
In language deeper than human words.

Honor the men of the olden time
Who honored the craft in their golden prime;

Keep their graves clean and neat,
Protect them from all vandal feet,

And in the future, perhaps, some one
Will us remember when our work is done.

VICTOR VAUGHAN.

How the Present Hard Times May Benefit the Telegraphic Fraternity.

Some old sage of the distant past has remarked that "It is an ill wind that blows nobody good," and the force of this proverb gains new application from day to day. Whether the above is the correct and original wording, the writer does not venture to say. It might be more forcibly rendered thus: "It is an ill wind, indeed, that blows good to nobody." One man's misfortune is another's opportunity. There is never a calamity, however universal and disastrous, but bears upon its fateful wings the seeds of some particular blessing. It may be the plague that is raging in Russia, the famine that is devastating China, the deadly fever that ravages our Southern cities, or the whirlwind that sweeps over

the peaceful plains and leaves nothing but desolation in its course; but each and all of them serve, however remotely, some good purpose. Over the country where Death has raged a healthy atmosphere may hover for the next hundred years, and out of the ashes of the desolating fire may arise the spirit of a prosperity hitherto undreamed of.

Among operators there is a universal and natural feeling of indignation at the rapid increase of candidates for the glory, not to speak of the salary, which is supposed to wait upon the successful telegraph operator. But notwithstanding our disapproval, "plug factories" still turn out their annual crop of "first-class operators," and nearly every country telegraph office in the land perseveres in the work of initiating its messenger boy into the mysteries of dot and dash, to finally turn him loose to harass corporation officials with applications for a position where he can exercise his peculiar talent and receive princely remuneration for the same; or perhaps he helps to swell the grand army of the unemployed who are hopefully "waiting for something to turn up." The remuneration of labor depends, of course, upon the relative state of demand and supply. Of late years the supply having been in excess of the demand in the telegraphic "profession," as a natural consequence salaries have been reduced, and the veterans of the service have been made to realize that the corporation they work for is not as dependent upon them as in the "good old times," when there were not a dozen applications for each vacancy in the service, as there are at present.

This fact, lamentable as it may be in its personal applications, is not entirely without its good effect upon the fraternity at large, and it may be wisdom for us to look at it philosophically, and see whether it is not on the whole something to be thankful for. The time was when the telegraph operator felt that, as far as the company he worked for was concerned, he was a perfectly independent individual. A proficient manipulator of key and pen, he could command such a salary as a man should have who has devoted a score of years or more to the business, and whose health in nine cases out of ten has suffered by his application to it. But the operator is only a man of common mold. As a class they rank high from an intellectual point of view, but the fact remains that high mental ability is not one of the requisites of success in the art. There are stupid men and brilliant men, educated men and ignorant men, distributed impartially through the ranks of both operators and plugs, and, in truth, the requirements for success are as much of a physical as a mental nature.

Well, this independent gentleman of the period alluded to was not always able to bear prosperity. He was like the successful miner in the golden days of California; his money came to him so easily, and he felt so sure of the supply, that he not only spent his income too freely, but indulged in a reckless mode of life which ruined his moral character as well as his physical constitution. It is probably needless to say that his favorite highway to ruin was that which too many gifted men still travel on. Its toll-gates are liquor saloons, and the gatekeeper intemperance. Men who lack moral strength need to be strengthened occasionally by circumstances. Many a man who formed habits of intemperance, and afterward lived a worthless life, might have been a useful member of society if it had not been for this fatal independence. An operator who felt so sure of a position then that he could do just about as he pleased, had nothing but a moral anchor to keep him from drifting upon a dangerous shore; but had he been made to feel (as he now is, to a certain extent) that his means of subsistence, and that of his family, depended upon his behavior as much as on his ability as an operator, he would have had then, as he has now, a material incentive to well-doing—an anchor the metal of which is forged by stern necessity.

Since the supply of operators has begun to be in excess of the demand, telegraph companies, and the Western Union especially, have taken upon themselves the responsibility of looking after the morals of their employes. The idea is rather repugnant to the average operator. He "can't see what the company has to do with his actions outside of the office;" he becomes indignant at the idea of his personal freedom of action being in a manner restrained by a corporation which only pays him for about one-third of his time! He cannot see what business it is of the company's if he chooses to get on a periodical spree, or spend his evenings at a gambling house or the pool-room. He cannot understand why his employes should interest themselves in his case when they happen to discover the

fact that outside of the office he keeps disreputable company. But if by keeping this espionage over his affairs, and holding him responsible for actions outside of the office, the young man is made to reform and become a better member of society, and a more honorable representative of the fraternity at large, then the company is doing a good work, and should be credited accordingly. Even if the motive which governs its action is of a purely business character, the end is an ample justification of the means. The company is naturally and justly suspicious of a man who, holding a position of trust under it, spends a great portion of his leisure time in a beer saloon, and is known to gamble occasionally, if not regularly. And if the suspicion extends to the main office operator who does likewise, it is simply just, for there are good moral and capable operators who are more deserving of his position. It is time that men ceased to reap the highest reward for mere ability only. A second-class "artist" who is temperate, keeps good company, and is always to be relied upon, is of more value than the more brilliant operator whose only recommendation consists in his ability to transmit and transcribe the Morse alphabet at the rate of forty words a minute. Telegraph officials are beginning to recognize this fact, and the sooner we operators admit its truth, the better it will be for us as a class.

The writer, of course, does not mean to imply that a combination of mental brilliancy and good morals is an impossibility, but there are certain vices which operators, for some unexplained reason, too readily acquire. Intemperance in its various degrees is one of them, and doubtless the worst. This fact is so generally admitted that some writers in the columns of this or another telegraphic journal have endeavored rather unsuccessfully to explain why they yield to this temptation more readily than any other class of workers. This latter assertion, however, the writer is not prepared to admit. Too many of us are reckless and improvident, generous to a fault, making no provision for to-morrow, which often comes upon us unawares and finds us sick, penniless, and dependent upon the generosity of more fortunate brothers, who are never appealed to in vain. Where, then, is our boasted independence? One of the chief causes of intemperance among our ranks is that idiotic American habit, which has its evil influence upon every class of society (especially here in California), of "treating" and being "treated" upon the slightest possible provocation. If an operator from the country comes up to town for a visit, he finds an hospitably inclined fellow operator whom he has become acquainted with over the wire, and whose brotherly introductory welcome is supplemented by the stereotyped invitation to "take a drink." If the invitation is refused, the generous host experiences such a shock of surprise as threatens to have a serious effect upon his nervous system. It is seldom refused, however. The visitor reciprocates, etc., etc. Sometimes both get home sober, and occasionally (very seldom of course) they both are pretty considerably "how came you so" when they finally reach their lodgings. It is doubtless this vicious custom as much as anything else which helps turn out so many telegraphic "tramps" as are found scattered over the country at present—men who do more to bring discredit upon us as a class than any other existing cause.

Men are often undeservedly unfortunate, but the tramp operator does not belong to this class. In nine cases out of ten his chronic impecuniosity is the deserved result of his intemperate habits. He frequently has more than average ability, and often secures a good position which an honest man with less "check" could not obtain. But he does not retain it long. He yields to the old weakness and resumes his vagrant life. It is really no charity to assist these men, but yet there are very few industrious operators who will not do so when appealed to. The tramp is aware of this fact, and depends upon it for his subsistence. Shame is to him an unknown sentiment. He experiences no hesitation whatever in asking the acquaintance of five minutes' standing for the loan of a dollar. He thanks you for it as any beggar will do, but seldom even goes through the formality of promising its possible return. In some towns here on the Pacific coast the natives have seen so many specimens of this genus, and have formed so uncomplimentary an opinion of the fraternity at large, that the newly-arrived operator discovers that he is necessarily an object of suspicion, and frequently is compelled to pay his board bill in advance in order to set the landlord's mind at ease and secure him from a repetition of former experiences. If the incoming army of college "plugs" will drive the telegraphic tramp

entirely out of our ranks, it will not be difficult to see in what manner this ill wind blows good to us.

But there is another class or two of operators whom we will not get rid of so easily, though that result can and should be secured. These are the "Shylocks" and chronic bidders, whom we always have with us. The former lend all they can at the highest possible interest that can be squeezed out of their victims by stern necessity, and the latter borrow all they can without any serious intentions as to the return of even the principal. These two classes of individuals are perhaps directly opposed to each other in their habits, and prey upon their fellow men by diverse means; one may be intemperate and the other a teetotaler, but which is the more despicable of the two? Echo answers, "which?" It would be a good idea for operators to keep a "black list" of their own in which to record the names of those who belong to the above classes. Such a course, in connection with the openly-expressed contempt which honest men should exhibit toward them, would do much to improve our reputation as a class, and to make the title of "telegraph operator" synonymous with "gentleman."

The writer does not wish the above remarks to be so construed as to express a want of charity toward those who are unfortunate, deservedly or otherwise, if they express a sincere desire to reform. In that case a helping hand and a word of encouragement should never be sought in vain, for none of us are above temptation, and no one can truly say to his fellow man: "Approach me not, I am holier than thou."

The "old-timer" looks back mournfully at the past and says, as he thinks of the good old times: "The palmy days of telegraphy are gone forever," but who knows what the future has in store? If "sliding scales" and kindred evils are never heard of more, the operator has it within his power to elevate himself immeasurably above the position he has occupied in the past. Will he improve his opportunities, and will corporation officials eventually conclude to deal more liberally with faithful men who spend the best years of their life in contributing to the prosperity of their employers? "Tis a consummation devoutly to be wished."

PACIFIC.

The Varied Uses of the A. D. T. Messengers.

The great majority of persons are probably not aware of the many and varied uses to which the District Telegraph system is put by all classes. This company employs at present about 600 boys, who are paid an average of \$3 a week. The amount of work done by these 600 boys may be inferred from the fact that the messenger receipts average about \$800 a day. The greatest demand for the boys is during the holidays, and the duller period is during a portion of the summer. The boys answer summonses at all hours from 4,682 boxes, which are in dwelling-houses, and on the corners of blocks, in all parts of the city. In some blocks in the upper part of the city nearly every house has an alarm box by which a messenger may be summoned for any purpose in less than five minutes.

The uses to which these hundreds of boys are put appear to reveal many curious phases of character. There are many young men, too, who are employed by the company for various purposes. Of late there has arisen a demand for escorts to places of amusement, and from one house to another. In the former case the address of the person applying for the attendant is taken, and word is telegraphed to the central office for an escort. The one who answers the summons is given the address and a letter of introduction, and accompanies the applicant to whatever theatre she desires. The escort pays for the car-fares and tickets from money that his newly-made friend has given him. He attends her back to the hotel, and receives \$2 for his services.

This custom of employing escorts has become a regular practice, and appears to be growing in favor. One evening recently there were eight ladies at six different theatres, including Booth's during the Kellogg opera season, whose escorts were furnished "to order." The men employed for escort duty are carefully selected, and in the majority of cases are in the service of the telegraph company during the day. As a rule the demand for these disguised messengers comes from married women, widows, and maiden ladies of mature years. Not infrequently two women apply for one escort. It is said that the daughters of a prominent professional man, and of a well known clergyman are among those who take advantage of this curious custom. Many of the

women who apply for these attendants are strangers to the city, ignorant of the situation of the theatres.

Men, however, as well as women, employ escorts for various purposes. Many, in fact most of the men, too, who require the services of the messengers are strangers, who wish for guides to show them the "sights." The new Post Office and other public buildings are the places which the majority of the country visitors desire to visit. It is said that one old gentleman from the country who has been repeatedly "fleeced" by gamblers, keeps a good guide by his side every hour while he is in the city. These guides appear with or without uniforms, according to the fancy of the applicant. Most of them are experienced men who understand human nature, and who are thoroughly acquainted with the city. The charges for guides vary from 35 to 75 cents an hour.

Another use made of the District Telegraph messengers is to attend children, particularly girls, to and from school. About seventy-five children are at present called for in the morning at their homes, and in the afternoon at their schools by messenger boys. It is said that there is one mother who will not allow any of her children to leave the vicinity of the house unless accompanied by a messenger boy in uniform. Recently she has taken a particular liking to one messenger, and employs him altogether on this special "nurse detail" as it is called. The boys are also required as "night nurses," and "night watchers." The practice, however, of hiring the messengers to watch patients afflicted with contagious diseases has been forbidden by the company.

Cases are not unknown where a messenger has been summoned and sent in search of a missing husband, who was supposed to be at one of his favorite haunts. It is related that in one instance a messenger started out with a complete list of the places in which the truant was likely to be found, and at last discovered him. But he was unable to persuade him to come home, and so reported. It is not an uncommon thing for a messenger to be sent home with an intoxicated person. In one instance of this kind recently, a man was labelled and sent home, and when the messenger gave him up he obtained a receipt for "one drunken man." Messenger boys and men are also extensively employed as detectives for various purposes. Some of the small boys are said to be very clever at this work, and on account of their comparatively small size they are able to mingle with men, and to observe much without attracting notice. It is said that a lady engaged two of the shrewdest of the young men in the employ of the company for this purpose, paying them double rates, and receiving their reports daily. It is also stated that in a recent divorce case, a messenger boy was detailed to watch the child for whom the parents were contending. The nurse, however, observing that she was watched, resigned her position because she could not meet a certain male friend of hers without having the fact reported. On the other hand, instances have been known where nurses hired messenger boys to take care of the children in their charge while they enjoyed a flirtation around the square or park.

Special messengers, or men and boys in plain clothes, are assigned to special duty as "spotters" of suspected clerks in stores, and are said to have done excellent work. In fact, detective duty appears to be peculiarly adapted to those in the messenger service.

Another use which has been found for messenger boys is the paying by proxy of New Year's calls. In one sense, too, they may be said to receive calls oftentimes. Many gentlemen have lately adopted the custom of sending their cards to their friends on the first day of the new year, instead of calling in person. With many ladies, also, the practice has grown up of receiving cards by a messenger boy hired for the purpose, or of securing a boy for New Year's Day to attend the door and announce the visitors. Messengers delivered 5,960 cards from gentlemen, and a great many houses were supplied with boys as doorkeepers on last New Year's Day. On Christmas Eve over 600 boys were carrying Christmas gifts from one point to another, and on Thanksgiving day almost one-half of the entire force resolved itself into a committee of turkey carriers. Messengers are also employed as ushers at fashionable weddings, and as "managers" of the arrangements for carriages on such occasions.

The books of the company show the services for which the boys have been required, and many laughable records are to be seen. One boy was detailed to take care of a lady's poodle, for which he was paid 30 cents an hour. An escort was required to attend to the theatre a lady whose husband was

to "come later." A young man was once telegraphed for in order to bring a bumptious servant to terms. During political campaigns the boys are employed extensively to distribute documents. Car drivers, and indeed all classes of people who have to get up very early in the morning, are peculiarly dependent upon the messenger boy system. The books also show that the messenger boys have been used to order dinners, to buy all kinds of liquors, to do shopping for women, to pay bills of all amounts, and even to borrow umbrellas. Not unfrequently boys are sent to pawnbrokers' shops with articles.—N. Y. Tribune.

The "Increasing Demand" for Operators.

"Ebenezzer Chips" contributes to the *American Grocer*, of this city, an article on telegraph colleges which may be of interest to readers of THE OPERATOR, and especially to any one contemplating learning telegraphy. He says:

We commenced our investigation with the following advertisement:

TELEGRAPH OPERATORS—Demand increasing: practical instruction; situations obtained, etc., Apply to —, New York.

As we had seen a telegraph instrument more than once, and knew a little about the business, we ventured. The "college," or "institute," was located well up in the building. The furniture was very plain and the faculty very limited in number. A very few instruments were located about the room, and two young ladies were pounding away, trying to make dots and dashes into something intelligible. The terms were only a couple of ten dollar bills, for which we were to receive practical and accurate lessons until quite proficient, and then for the trifling amount of ten per cent. upon the amount of our first year's salary, to be paid into the hands of our tutors, we were to be hoisted into a position in some nice railroad or private company, or the climax of ambition with all telegraphers, the Western Union Company's superb operating room in the New York building. We had not the cash, and so did not conclude the arrangements then and there, but took it "into consideration." From this place we wended our way to another and similar institution, where much of a like nature occurred, and as we had now the cards of both parties, with their story, we tacked about and called on an old friend and fellow operator of thirteen years ago, who now holds a good and merited position in the main office at New York. Having told him all about the colleges, institutes, etc., we showed him the cards and read our notes. Now for the facts, or his side:

"These places you have visited are what we who learn our business in a practical way and get our promotion by years of application know as 'plug factories,' and the people who are so foolish as to go there and pay their money find at the end of the lessons that they have a certain knowledge of very little practical use, and of no use in our business, because in giving a new corner a place we invariably give it to one who has had practice upon the line, as we cannot spend time to teach them practical routine."

So far so good. Now we ourselves had a fair knowledge of the facts as to the "increasing demand for operators," but we ventured the question: How about the demand for operators now; you see these people advertise that fact?"

"Oh, yes; it's all without a shadow of foundation or existence as fact. When the Atlantic & Pacific Telegraph Company virtually consolidated with the Western Union hundreds of offices were closed, and in very many more changes were made that threw out of employment one or more thousand operators of all grades, and we could now supply five hundred new offices, if that were required, with capable operators, and without advertising, writing, or telegraphing for such assistance—persons of both sexes who are trained, capable, correct, and able to go into an office and do its work at once and with no clash or jar. Hundreds of them are now without work, and the idea of getting \$100 a month is entirely and utterly false. Hundreds of A 1 operators would be only too glad to be at work at \$40 or \$50 a month, and wait promotion to \$60 or \$70, which is out-

side for the majority of positions, while the minority are thankful for \$20 to \$30 a month."

With some further chat we passed on to the office of an old friend, who is superintendent of telegraphs of one of the strongest railroad corporations in the United States. He has 319 offices and connections and 740 operators, so that he was safe as to authority. A half hour's chat with him fully corroborated the words of our friend of the Western Union. He showed us his pile of applications for positions, over two hundred at that time. "I am completely overrun," said he, "and when I have a really meritorious case and wish to help some poor fellow or young woman to the means of support of themselves and perhaps a parent, I sometimes have to make two or more changes in order to get room to do even that, but I can only occasionally do even that." This must suffice. Comment is unnecessary; it's a plain case and only one.

Writing by Telegraph.

A writing telegraph, or telegraphic pen, is the latest invention. Mr. E. A. Cowper, a well-known English engineer, is the inventor. Many American electricians, however, also claim to have—some of them years ago—invented substantially the same thing; among the rest Mr. Edison, Professor Dolbear, and a Mr. See, of Cincinnati. Mr. Cowper's apparatus may be briefly described as follows: A return wire is used. The operator moves with his hand an upright pointer or stylus, with which he writes the message on paper. The stylus has two arms connected with it, one of which arms, when the stylus makes an upward movement, causes a current to be sent over one wire, while the other arm causes a current to pass over the other wire when the stylus is moved laterally. These two motions are, at the receiving end of the line, made to operate on the needles of galvanometers, and the latter are by silk threads combined or connected with a delicately suspended ink tube, from which a minute stream of ink falls upon the strip of paper below it; the arrangement being such that the combined motions of the galvanometers so move the ink pen as to make it correspond to the motion of the stylus at the sending end. The apparatus is said to work very well, and it is expected that it will form a useful adjunct to the art of telegraphy.

The instrument exhibited by Mr. See before the Electrical Society of the Ohio Valley, as described by a local paper, consists of four keys closing four electric circuits. These keys are opened by the rotation of toothed pinions, and the pinions are rotated by toothed racks having articulated rods attached. The pencil socket is at the puncture of these rods. A movement of the pencil in one direction will affect a series of breaks in one circuit and not affect the other three. The number of breaks is in proportion to the length of the line. If the pencil be moved in a curve it will result in a series of breaks in two circuits, and the relative number of breaks will depend on the relation between the two component directions of the curved line. The receiving features of the instrument are similar to the portions just described, save that instead of rotating pinions breaking a circuit, breaks in the circuit are caused to rotate the pinions. This is accomplished by means of four electro-magnets, whose armatures at each break in the circuit rotate the pinion as far as the pinion which broke the circuit rotated.

The instrument thus possesses vast executive powers. It analyzes the writing as it is produced; separates it into its component elements; transmits one of these elements over one circuit and another over another circuit at the same time; and as a receiver it receives separately the component elements of lines, properly combines them, and delivers them exactly as received. The author at the sending end places his pencil at the top of his sheet of paper; the weird pencil at the receiving station takes its position at a corresponding spot upon its sheet of paper; the author finishes a line and returns to commence a new one; the receiving pencil returns to commence its new line, and when the sender finishes and gives the final flourish to his signature, the obedient receiving pencil passively does the same, and waits for more influences from abroad. When the sender lifts his pencil from the paper and returns to cross a t or dot an i, the receiving pencil lifts, moves mysteriously through the air, crosses its t, etc., and goes on as the sender does.

This lifting of the pencil is effected by means which have not yet been described. The pencil

at the receiving office stands normally away from the paper, but is held down to the paper by an electro-magnet as long as a fifth circuit is closed. This fifth circuit is kept closed by the sender's pencil being down. If the sender lifts his pencil this circuit opens; the electro-magnet loses its force, and the receiving pencil lifts from the paper to return only when the sending pencil does.

But a single instrument is employed, it being both a sender and a receiver, and any number of them may be placed in a single line. The normal condition of the instrument is "out of action." The usual signals are employed upon any one of the circuits and upon a station being called, a response given, the sheet placed in position, the pencils placed in union, and, the receiving lever turned, the pencil begins its magic journey.

The Originator of the Atlantic Cable.

TO THE EDITOR OF THE TRIBUNE.

SIR: An article in a recent copy of *The Tribune* relating to the Atlantic Cable gives to Mr. Cyrus W. Field the honor of originating the work. I simply desire to place before you a copy of one of the papers in my possession, formerly belonging to my father, the late Colonel John Henry Sherburne, of Washington, D. C. From the *Public Ledger*, Philadelphia:

The Transatlantic Telegraph.—What was considered when the undersigned first announced it as a perfect chimera begins now to be considered as a matter of possible practicability. Since the successful execution of the telegraphic communication across the Channel from England to France the subject of the transatlantic telegraph has attracted more attention in England than it has in this country. Having been the original projectors of the idea of a transatlantic telegraph, we have deemed it advisable at this juncture to call the attention of the public to the record of the fact in order that our country may not be plagiarized of that original suggestion, as it has been so often in other cases.

The following extract is therefore made from the journal of the Senate of the United States Senate for the second session of the Thirtieth Congress, to wit: "Monday, January 28, 1849.—The Vice-President presented the memorial of John Henry Sherburne and Horatio Hubbell, praying the aid of Government in the establishment of a telegraphic communication across the Atlantic Ocean, which was referred to the Committee of Commerce." This is the record showing that the petitioners have done everything in their power to secure the honor of this great undertaking to their country. Why will not Congress second the effort? And will they suffer it to be taken out of our hands, as it undoubtedly will be by the English Government? In the memorial referred to the geographical points are indicated from which the communication can be most conveniently made between Newfoundland and Ireland, the distances given, the probable existence of soundings quite across suggested, or the possibility of anchoring buoys without soundings, and the apparatus necessary to effect the design. The views contained in this memorial have been confirmed by the opinions of some very intelligent and experienced seamen, naval officers, and merchantmen; and, indeed, upon due reflection, there can be but little doubt of its ultimate feasibility, stupendous as the undertaking seems. We are not so overweening as to suppose that the plan laid down in the memorial is the best that can be devised.

JOHN HENRY SHERBURNE,
HORATIO HUBBELL.

Had it not been for the sudden death of my father two years later he would, without doubt, have been enabled to carry into execution his favorite project.
Brooklyn, March 14, 1879. G. S. H.

Along the Berks and Lehigh.

Your valuable paper finds its way regularly into this lonely retreat of ours, and its spicy news and literature is by no means unappreciated. Many of your readers are probably unaware of our existence, as we are stowed away in sylvan domicils far beyond the din of the busy world; but I will endeavor for their benefit to throw a phosphorescent light on the labyrinthine B. & L. that penetrates our mountainous vicinity, to give them a faint idea of what we are doing. Four years ago we were given communication with the outside world by rail and telegraph through the generosity of the P. & R. R. R.

Co. and the P. R. & P. Tel. Co. No. 37 extends from Reading to Slatington, 43 miles, and has eleven officers. At Reading, the terminal office, we find C. M. Dechant, always on hand with a smile, ready to be rushed; at "D" dispatcher's office, J. J. Sellers acknowledges with "S"; at Berkley, cozily stowed away, you find A. H. Dunkel deciphering Morse characters on a long white strip of paper; at Maiden Creek lightning is deliberately and efficiently handled by G. D. Penrose; "G" is one of the sort of boys of which the world has not too many. At Moselen we find E. G. Saul straining every nerve to its utmost tension to change from dot to dash or arrest the h at the end of four dots, and prevent the p from being a 6. At Lenhartsville G. F. Huy superintends the biz, and is assisted by "C" layton Adams. At Kempton lightning is kept under control and the sounder's click of "Kn" responded to by "G." C. Lins. Steinsville is kept in trim by W. L. "K" istler. E. F. Bloom at Lymport helps No. 16 to orders and speedily sends them home. At Germansville the sounder's click is readily responded to by D. A. Bittner. This is the point for legible manuscripts. We are sorry to inform you that "B" contemplates a Western trip in spring. Slatington the last, but by no means the least, is attended to by L. F. Hanke and R. B. "K" insey. The boys on 37 are occasionally relieved by J. M. Geiger, "Gr" or Charlie Brennan, "Do," who are on the extra force. OPERATOR.

English Appreciation of American Telegraphers' Generosity.

TO THE EDITOR OF THE OPERATOR.

Dear Sir: My brother, Mr. Thomas Hood, was one of those who fell a victim during the epidemic last year to the virulence of yellow fever while working as a volunteer telegraph operator in the Memphis office. During the brief period of his sickness he was cared for in the Telegraphers' Hospital at the expense—voluntarily incurred—of the telegraphers of America.

On behalf of his wife and family, and of the rest of his relatives in England, I desire to express our appreciation of the great kindness and tender care which were shown to him before he died. We feel that we owe a debt of gratitude for untold kindnesses to all who attended him during his sickness, but more particularly to one who is beyond reach of our thanks—one who only a few days later was called to pass into "the Land of the Leal." It may, however, be some consolation to Mr. McDonald's friends to know that the tender, brotherly care which he so bravely showed to Tom Hood in those last dark days will never be forgotten, and that the remembrance of his great kindness and sympathy will remain as a monument to him in all our hearts. To Mr. Van Horne, General Superintendent, and Chairman of the Telegraphers' Aid Association, our thanks are especially due for such kindness, as also to Mr. Gaston and Mr. Putnam, of Memphis.

To Mr. Christie, of the Associated Press, Philadelphia, who is well known to the readers of THE OPERATOR, we owe so much that I can only express our obligation to him. No words are sufficient to thank him adequately for all his kindness and unwearying labor.

In conclusion, I desire to thank the Telegraphers of America for the noble efforts they made on behalf of their stricken comrades, and for the warm, tender sympathy which on all hands has been expressed, the remembrance of which will ever live in our memories as a bright star shining out of the darkness of the black days of August and September last. Yours faithfully, C. Hood.

Middlesbrough, England, March 5, '79.

THE verbatim report of the Budget speech of Mr. Tilley, which we published on Saturday morning, occupying nine columns of closely printed matter, represented a vast amount of labor, both by the newspaper staff and by the Dominion Telegraph Company's officers, over whose wires the whole was transmitted. Some idea can be formed of the strain upon that company's wires, and of the great interest manifested by the press of the country in the Budget speech, when it is known that some 240,000 words of report was furnished to the press alone by this company during that night and the following morning. Our readers little imagine the great amount and variety of hurried labor that is necessary to give to them so important and lengthy a speech on the same morning it is delivered, and only a few hours after it has been concluded.—*Montreal Gazette*.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY.

W. J. JOHNSTON, - - - Publisher

April 1st, 1879.

A TELEPHONIC exchange is soon to be started in Berlin.

PHOTOGRAPHS by electric light are softer than sun pictures.

WESTERN UNION stock is quoted at 106½, and A. & P. at 37½.

THE Metropolitan Elevated Railroad Company of this city has discarded sounders, and introduced telephones in their stead.

THE British Museum is now lighted by the electric light. Gas has never been allowed in the building for fear of explosion.

WE have received many complimentary congratulatory letters since last issue, and desire to thank the several writers very heartily for the good wishes expressed.

THE London Telegraphic Journal says it is rumored that Bell and Gray are likely to come to terms over their telephone dispute, "a consummation," it adds, "devoutly to be wished."

THE Municipal Council of Paris has arranged to try the Jablochkoff electric light for a year in certain parts of Paris, while certain other localities are to be lighted by gas. By this means they will be able to judge of the respective merits of gas and electricity for street lighting.

THE construction of the first telegraph line in China for the transmission of public messages has just been commenced, and will probably be in working order within three or four months. This will be a line of some 40 miles in length, and will no doubt be very rapidly extended.

THE Journal last issue offers some Practical Suggestions to Telegraphists. "Those who propose making telegraphy a means of livelihood," it says, "should be assured that something more than mere expertness in sending and receiving telegraphic signals is essential to advancement." True—true. Being a favorite with the superintendent is generally more efficacious.

A PARIS paper, *The Bulletin Financier*, says that a company is now organizing, with 20,000,000 francs (\$4,000,000) capital, under the auspices of an important Parisian financial establishment. The new company, it says, will acquire the existing Brest and St. Pierre Cable, with the concession of 1868, assuring important advantages over all later concessions. This company is intended to work in conjunction with the existing system, with the view of antagonizing the Pouyer-Querrier scheme.

A Free Advertisement for a Telegraph College.

One of the most barefaced swindles that has lately come to our knowledge is contained in a circular emanating from what was formerly called the Northwestern Telegraph Institute, but is now known as the Western School of Telegraphy, at Janesville, Wis. Although the circular is dated September 15th, last, we have only recently seen a copy. It commences by stating that the latest item of interest in telegraphic circles is the formation of a secret organization called the "Telegraph Operators' Protective Association," whose object is "to prevent persons from learning telegraphy; and each member takes a solemn and binding oath that he will do all in his power to accomplish that object." "These operators," continues the circular, "argue that by preventing outsiders from learning, the naturally rapid growth of the telegraph business will cause such a demand for operators that they will be able to dictate their own terms to the telegraph companies, and compel them to greatly increase their salaries."

Then follows what purports to be extracts from "a circular upon the subject which was mailed to all operators some time ago." Our readers will recollect the circular referred to. Three such extracts are given, only two of which, however, are to be found in the circular. The third is made up out of the whole cloth, and is a striking example of the deceit and dishonesty to which these telegraph colleges will stoop in order to secure a victim. We quote all three extracts as given in the circular under consideration.

"Let every operator TAKE A SOLEMN VOW that he will not teach or assist any student henceforth, and in a very short time events will demonstrate the wisdom of their course" "DOWN WITH THE STUDENTS!" "Justice moves with leaden heel, but strikes with iron hand." "Let us organize a Telegrapher's Mutual Protective Society with this object in view."

"Another operator says:

"Let no one take a student, NOT EVEN A FRIEND OR BROTHER, without the consent of the Association; and I hope such cases will be few and far between."

"Another operator says:

"Let every operator who hears of a young man who intends attending a Telegraph School, go to him in person; talk to him, and labor with him until he is frightened out of the notion. Tell him he can't learn telegraphy in a school, and even if he could, no company would hire him. Tell him anything to scare him off. I find it is an easy matter to do so, as I have myself frightened off two young men who were all ready to attend a telegraph school at Janesville, and whom I first met when they came to the depot to buy their tickets. Let us all look out for such cases, and go for them wherever found. The fact that the Janesville School is managed by old operators, and does teach well, and the company recognizes it and hires its graduates, makes it doubly necessary that we should work against it. The various Commercial Colleges who pretend to teach telegraphy we need not fear, as they cannot do it. The Janesville School is the only one we need have any fear of."

"What an honorable man the writer of the above must be!" remarks the circular. We should say so! In fact these telegraph college "mana-

gers" are all honorable men. Who ever heard of any of them holding out false inducements to his dupes? Do they not always in a remarkably short space of time transform the most stupid and illiterate young man or woman into a strictly first-class operator, thoroughly familiar with all the routine duties of a telegraph office? and are they not proverbial for procuring their "graduates" immediate situations at fabulous salaries?

We fear, however, that the average college professor is altogether too diffident and unassuming to ever achieve the success he deserves. In a larger circular issued some time ago from this same Northwestern Telegraph Institute, otherwise Western School of Telegraphy, we find the following paragraph, which shows an innate modesty and good taste on the part of the Valentine Brothers that it is a real pleasure to meet in these degenerate days:

"Many telegraph operators will tell you that you cannot learn telegraphy at a telegraph institute. Our answer to this is that the managers of the Northwestern Telegraph Institute both learned the art in a telegraph institute in Syracuse, N. Y., and that they are first-class operators no one has ever doubted. We have filled all the stations from night operator on a railroad line to chief operator in the largest offices in the country, and we live to see the operators who can do the work upon any line better than ourselves."

The writer of the above might have added in the words of Artemus Ward: "My modesty hurts me; it is what has always kept me down." In another part of the same circular the managers say: "We do not keep anything back to be told you only after you have paid us your money. Everything we do or say, we do or say openly and above board." Of course you do. However, if you consider it "perfectly open and above board" to quote one or two extracts from a circular, and then follow with a lengthy puff of your own college, written by yourselves, and represented as being from the circular from which the others are taken, we should like to know, as a matter of curiosity, what you would call fraud, deceit, and downright swindling. Jeremy Taylor, in his "Rule of Holy Living," says that even he who deceives a person by speaking what is true in a sense not understood by the other, is a thief.

Referring to the letters in opposition to students in the circular from which the above extracts are taken, the Messrs. Valentine say:

"Was there ever a case of purer selfishness than these writers show? They are in, and have good offices; but no one else must be allowed to learn their trade. We are glad to say that all operators are not of this class, but are willing that others should have an equal chance. We have managed to live despite the opposition of operators; and we shall continue to go straight onward teaching telegraphy, and furnishing situations to our graduates the same as we have always done."

And then they endeavor to manufacture sympathy on their own behalf by representing themselves as poor, persecuted, down-trodden martyrs as follows:

"Several students have arrived here lately who state that when they came to purchase their tickets, the operator at the station, on learning their destination, tried his very best to prevent their coming. From this we see that the Association is at work against us, and we wish, therefore, to inform our correspondents, so they may be prepared for it. Pay no attention to these falsifiers; but if you have doubts about our ability to teach you, and furnish you a situation, write to Manager C. W. Jones, care Western Union Telegraph Co., Chicago."

Manager C. W. Jones, care Western Union

Telegraph Co!" This is more of the "open and above board" business that scorns to keep anything back. Bad, wicked persons might be found to say that the brothers Valentine intended by the above to convey the impression that C. W. is manager of the Western Union at Chicago, and we confess that it would strike the casual and uninformed reader somewhat in that light; but then do they not tell us that everything they do or say is done or said "openly and above board?" By the way, it would be interesting to know just what the "arrangement" is between C. W. Jones and the Janesville factory, which he is so ready to bolster up by giving it what the managers would call "a good recommend," whenever called upon?

Perhaps the best thing that this pair of Valentines can do is to once more change the name of their school; or, better still, give up the further manufacture of plugs. The "college" is now in so tottering a condition—as evidenced by the subterfuges they are compelled to resort to—that this would probably be but a slight sacrifice. They claim that several hundred embryo-telegraphers have graduated from their "institute." Surely, those who have been the means of adding so large a number of young men, who might have achieved success in some other more congenial business, to the already overcrowded telegraphic ranks, have much to answer for; but there is still hope for them if they abandon the vile business at once, and, by devoting the remainder of their lives to charity and self-denial, try to atone, in some measure, for their past misdeeds.

A New Telegraph Company.

A new telegraph company, called the American Rapid Telegraph Company, has just been organized in this city, with a capital of \$3,000,000. The new enterprise is probably an outgrowth of the States Union Telegraph Company, started some time ago in Boston. The latter company got a charter from the Massachusetts Legislature, but nothing further seems to have been done in the matter lately. The charter provided that \$1,000,000 must be subscribed before the company could commence business, and perhaps this was the stumbling-block. A company can be organized under the laws of this State, as the American Rapid is, without requiring a charter, and with very little trouble. The new company proposes to build a line of two wires to connect Boston, New York, Philadelphia, Baltimore, Washington, Chicago, and St. Louis, and all important intermediate points. Compound steel copper wire is to be used, the poles will be extra large, and the lines unusually substantial. The officers of the Company are ex-Mayor Edwin Reed, of Bath, Me., President; the Hon. Thomas Wallace, of Connecticut, Vice-president, and Major L. S. Hapgood, of Boston, Treasurer. It is claimed that the organization, under the advice and direction of eminent counsel, will render it impossible for the company to fall into control of any "monopolists."

The company claims that by the use of machine telegraphy it will be able to transmit 1,000 words a minute over its patent compound wires, and 500 a minute over the ordinary wires now in use. The business, too, is to be done so cheaply that the promoters of the scheme, in a pamphlet they issue, say in italics that they "confidently expect, within three years, to telegraph ordinary business letters to and from all points in the coun-

try for ten cents! They also propose, when the company is in operation, to establish the following new features in telegraphing:

1. Express Messages—To be dispatched instantly at a uniform rate of 25 cents for thirty words to all stations east of the Rocky Mountains.
2. Mail Messages—To be dispatched within one hour, and delivered through the nearest post-office or by messenger, within two hours from date of message, at 25 cents for fifty words.
3. Night Messages—To be delivered before 9 A. M. at 15 cents for fifty words.
4. Press Reports—For exclusive publication in one journal at 10 cents for 100 words.
5. Stamped Messages—It is proposed under an arrangement with the Post Office to use stamps for messages.
6. To utilize the street letter boxes for stamped messages, to be collected every fifteen minutes during the day.

A NEW working contract has been signed between the Western Union Telegraph Company and the New York, Lake Erie and Western Railroad Company, for the telegraph wires owned and controlled by the latter company. The contract is to run for twenty-five years, subject to a cancellation by either company at any time. By the terms of the contract, it is understood that the Western Union will have sole control of the wires along the Erie Road, by transmitting all the dispatches of the railroad company free of charge and keeping the wires in repair. It is claimed that there is nothing in the contract to prevent the Erie Company from entering into any independent telegraph organization by combining with other railways, or otherwise. The Western Union has also acquired the P. R. & P. lines, and negotiations, it is said, are pending with the Pennsylvania Railroad with a similar object in view.

A FRENCH engineer has devised an instrument for stopping trains in foggy weather without any chance of error. The instrument consists of a metal-faced disc rising out of the permanent way between the lines of rail, and placed so that any engine going along the rail must brush against it in passing. The engine is provided with a brush for this purpose, made of iron wires, which has an electric communication with the handle of the whistle. It is only necessary in order to bring the train to a standstill to pull from its recumbent position the disc, when the train in passing must come in contact with it and give itself its own danger signal.

AN Associated Press dispatch from San Francisco says that S. D. Field, Superintendent of the Electrical Light Company of that city, has combined the principles of several electric machines so as to work the electric light and telegraph wires at the same time. In the Western Union Telegraph Office one of his machines worked fifteen different circuits, varying from 100 to 480 miles in length, including one duplex circuit 198 miles long.

MR. C. HOOD, of Middlesbrough, England, thanks American telegraphers in this issue for their kindness to his brother, Mr. Thomas Hood, who died at Memphis during the yellow fever epidemic. Mr. Christie, "Werner," exerted himself considerable in settling up the late Mr. Hood's affairs and in other ways, and we are glad to see his name specially mentioned.

Themes for the Thoughtful.

Insignificance for lack of argument generally has recourse to abuse.

There is no vice that so covers a man with shame as to be found false and perfidious.

Conscience is merely our own judgment of the moral rectitude or turpitude of our own actions.

Wise men are instructed by reason; men of less understanding by experience; the most ignorant by necessity; and beasts by nature.

Though we ought not to love our friends only for the good they do us; yet it is plain they love not us, if they do not assist us when it is in their power.

Knowledge can have no enemies, except the ignorant; it cherishes youth, delights the aged, is an ornament in prosperity, and yields comfort in adversity.

Reading serves for delight, for ornament, and for ability; it perfects Nature, and is perfected by experience. The crafty condemn it, the simple admire it, and the wise use it.

To be prudent, honest, and good are infinitely higher accomplishments than the being nice, florid, learned, or all that which the world calls great scholars and fine gentlemen.

Most men take least notice of what is plain, as if that were of no use; but puzzle their thoughts and lose themselves in those vast depths and abysses which no human understanding can fathom.

What sculpture is to a block of marble, education is to a human soul. The philosopher, the saint, and the hero—the wise, the good, and the great man, very often lie hid and concealed in a plebeian, which a proper education might have disinterred and brought to light.

He that is well employed in his study, though he may seem to do nothing, does the greatest things yet of all others; he lays down precepts for the governing of our lives, and the moderating of our passions; and obliges human nature, not only in the present, but in all succeeding generations.

In this world men thrive by villainy; and lying and deceiving are accounted just, and to be rich is to be wise, and tyranny is honorable; and though little thefts and petty mischiefs are interrupted by the laws, yet if a mischief become public and great, acted by princes, and effected by armies, and robberies be done by whole fleets, it is virtue, and it is glory.

An hour of vice is as long as an hour of virtue; but the difference which follows upon good actions is infinite from that of ill ones. The good, though it diminishes our time here, yet it lays up a pleasure for eternity, and will recompense what it taketh away with a plentiful return at last. When we trade with virtue, we do but buy pleasure with expense of time; so it is not so much a consuming of time as an exchange.

Run not into debt, either for wares sold, or money borrowed; be content to want things that are not absolutely necessary, rather than to run up the score; such a man pays at the latter end a third part more than the principal comes to, and is in perpetual servitude to his creditors; lives uncomfortably; is necessitated to increase his debts to stop his creditors' mouths; and many times falls into desperate courses.

Let any one of the strictest character for regularity of conduct among us, examine impartially how many vices he has never been guilty of, not from any care or vigilance, but for want of opportunity, or some accidental circumstance intervening; how many of the weaknesses of mankind he has escaped, because he was out of the line of such temptation; and, what often, if not always, weighs more than all the rest, how much he is indebted to the world's good opinion, because the world does not know all; any man who can thus think, will scan the failings, nay, the faults and crimes, of mankind around him with a brother's eye.

The Lay of the "Old Timer."

PARODY ON TENNYSON'S "BREAK, BREAK, BREAK."

Break, break, break,
O, plug on thy restless key,
And I would not have my lips utter!
The "swears" that arise in me.

Oh, well for the lazy "Boss,"
As he loafs 'round the streets all day!
Oh, well for his three-months' "Boy,"
Who is so willing to stay!

For the army of plugs go on!
To the place that we should fill;
Oh, for the sweep of a mighty hand
That would keep them forever still!

Break, break, break,
All day on thy tireless key,
But the good old times and days that are gone
Can never come back to me. Q. K.

Dashes Here and There.

The city which produces all the telephones—
Electri-city.

"To catch Argos," for "Local Changes," is the latest, perpetrated in cold blood by a Hawk-eye artist of the C. & N. W.

They have a new penalty for certain violation of the law in Pennsylvania, as a Meadville man has discovered. He was first convicted, and then struck by lightning.—*Cleveland Plaindealer*.

It is a great misfortune for some men to be a little elevated above their fellows. Their worst qualities are very apt to become their most prominent ones. Can any such be found in the telegraph business?

The telegraph is yet an infant.—*Boston Post*.—But a very witty one.—*Phila. Bul.*—And well posted.—*Detroit Free Press*.—And already sparking.—*N. Y. Mail*. Although but a short time since it learned to talk, it is now taking lessons in writing.

The following little poetic gem was sent from Bangor, Maine, to "Manager," Boston office:

I wish you'd tell your chief,
Baby mine, Baby mine,
To send that man relief,
Baby mine.
He is sending very light,
He's been sending so all night,
I think he must be tight,
Baby mine, Baby mine.

The tariff book is got up in pretty good style, and leaves little to be desired, with the single exception, that the leaves *twiff* or fall out almost if you look at it. It is a first-class article. We are bound to stick up for it while there is a leaf left.

The copy of a certain artist was under discussion a few days ago. One operator remarked, "he rather liked it," and "though it might not exactly be called copperplate, yet it was at least uniform in appearance." "Yes," replied another, "uniformly bad."

"A Plug's Dilemma," by Mr. J. S. Muchemore, of 791 Broadway, is unusually *apropos* at the present time, and a more extended acquaintance with the same will tend greatly to a proper understanding and disposal of the perplexing "Plug Dilemma" question.

A dispatch, dated Halifax, N. S., March 19th, says: "The weather is quite favorable to-day, and the Minia is now at the cable buoy preparing to make a splice. It is to be hoped the giddy Minia will cease flirting with those cable buoys and get a permanent splice."

There are only two Atlantic cables working at present, those between Hearts Content and Valentia (both the Duxbury and Direct being broken), consequently the business over these two lines is very heavy. On March 11th, over 1,800 cables, besides services and D.I.s, were transmitted.

Mr. Stearns has succeeded in duplexing one of the Atlantic cables between Hearts Content, N. F., and Valentia, Ireland. It is not working quite satisfactorily as yet, but Mr. Stearns, at Valentia, and superintendent Weeden, assisted by Mr. Dickinson, at Hearts Content, are daily at work on it, and hope soon to bring it to perfection.

The *Boston Transcript* says: "There's a good deal of talk about the new 'motors,' and the results they are going to accomplish. One of them at work, actually doing something, would be a better argument than a hundred columns of description. The telephone was a success because it worked. Now bring on the 'motors,' at work."

There was a most comforting editorial in the *Journal of the Telegraph*, March 1st. It tended

greatly to make the discontented cheerful; there was a bright future, with an increase in compensation in store for them. That's what it says on the surface, but it really means that those who are getting much will get more, and those who are getting little will get less.

The question that is agitating the mind of W. S. Forsey, of 1,205 Broadway, is, where did the Mexican half-dollar go to when he twirled it up between his thumb and finger. It has been remarked in connection with the above that he would have been much more careful had he *Forsey-een* the result. Of course he would, for he should not then have been Forsey-d to make it good.

The following notice, posted up in the Western Union office at Oneida is characteristic of the Oneida manager, an old and well known manager, formerly of Syracuse, N. Y., Mr. John Kelly: "Advice to Persons sending Telegrams.—As all W. U. operators are very careless, and detain messages from six to ten hours, the sender of a message should never, or hardly ever, forget to ask the operator to 'send that right away.'"

There are about five hundred general orders, more or less lengthy, in force in the A. D. T. Co., for the guidance of the managers and patrolmen, a failure to comply with any one of which means a fine of from fifty cents to five dollars. It requires about two years hard work for a man to get familiar with them, and during that time he generally finds himself, with the aid of the company, either discharged or minus a large percentage of his earnings.

E. B. Hamlin, General Manager of Edison's Phonograph Association, has invented an instrument for the transmission of vocal and instrumental effects over considerable distance. He calls it the "telephone," and it differs from the well-known telephone in the formation of the transmitter and receiver, the diaphragm in the former being of one combination of metals, and that in the latter of another. The composition of either diaphragm is the inventor's secret which it has cost him three months of experimental tests to perfect.

When the ranks of any business become filled, those who would crowd in will always be greater sufferers than they whom they would displace. The experience possessed by the latter, and which gives them their value, has only been acquired after long years of service. The former must strive hard for an opportunity even to acquire this knowledge before they can begin to compete. If the young people now laboring for an opening could be brought to see the matter in this light, it would save them from wasting their most valuable years, and avoid the disappointment that will inevitably follow.

The writing telegraph recently described in these columns is causing quite a sensation in England. The London papers are enthusiastic about it. Some of them make this invention the pretext of casting slurs on American inventions. *Nature* thinks Edison has done nothing to equal it. *Nature* will, perhaps, be pleased to know that Edison has had a similar machine in operation for several years, and it is now in working order at Menlo Park. He patented it and offered it to the telegraph companies, but they thought it would not add materially to their income, so it has lain idle ever since.—*Detroit Free Press*.

Referring to the matter of the escorts furnished by the A. D. T. Co., of this city, to ladies visiting theatres and the like, see article on the subject in this issue. The *Detroit Free Press* says: "No doubt they will get this thing down so fine that a lady can telephone for a blonde young man or a stout, elderly gentleman, or a frail spiritual party, or a jolly, good-natured person, and have a sample sent for inspection. Or perhaps the young men can be photographed and numbered. Perhaps a printed card of instructions will be placed over the instrument, reading somewhat as follows: 'In ordering escorts state particularly the height, size and general style of the article required. Escorts furnished in any language. The latest styles kept constantly on hand. Call before going elsewhere.'"

Mr. Latimer Clark, the well-known English electrician, in a lecture recently delivered in London, expressed firm faith in electric lighting as confined to streets and halls. In the course of his remarks he said: "How astonishing, then, are the wonders of electricity! How fortunate are we of this generation in being permitted to live in a period of such progress! Compare the world of to-day with what it was when many in this room were born—no gas, no steam-engines, no electric telegraphs, no photography, no railroads, no steamboats, no telephones or microphones. How proud ought we to feel, too,

that our own little island has been the birthplace of most of these wondrous discoveries which have so changed the face of the world. Science has, doubtless, great triumphs in store for us; but, just as no previous generation has witnessed such advances as ours, so it is not conceivable that any future generation can see such stupendous changes as we have witnessed. The scepter of the world has departed successively from India, from Egypt, from Athens, and from Rome, ever travelling westward, and it may one day depart from Britain to travel still further toward the setting sun."

Echoes from 197, and City Items.

A fire last week burnt out the office at 33 Union Square.

Miss M. E. Reed now receives visitors at Earle's Hotel, corner of Centre and Canal Streets.

Superintendent Weller intends opening a steam laundry in Paterson, N. J., about May 1st.

Operator Charles Nugent has resigned and gone into business with his father, who is a florist in Jersey City.

Telegraph operator J. J. Bates was taken to St. Vincent's hospital in this city on March 17th in a dying condition.

Barney De Klyn, who volunteered his services and went down South during the yellow fever epidemic, has returned, and is working on the night force.

Mr. E. G. De Lanoy, of the General Superintendent's office, N. Y. C. & H. R. R., Grand Central depot, New York, was married to Miss Ida Dykeman, of Cold Spring, N. Y., March 12th.

The office at Gilmore's Garden during the great walk done a large amount of work, that is to say, Mr. Morris did. He handled it as promptly as the winner did his feet. Can this be called a *feeling* tribute?

Matthew Galvin, Esq., of 575 Broadway, is the life and soul of that office. He is not what one might call a brilliant conversationalist, but he looks unutterable things. His favorite expression is "Next," which he repeats at short intervals with a great deal of gusto.

Mr. S. H. Moore, late of Stewart's, Broadway and Chambers St. office, now spends his evenings at 12 West 23d St., and it may be remarked, in passing, that a—but no! We have sworn a solemn oath that we never will be guilty—well, hard—of punning any Moore.

Mechanical Engineer M. C. Bagley died at his residence in this city on March 24th, after a long illness. His funeral was attended by Supt. Brown, Manager Downer, Electrician Gerritt Smith, and many other well-known telegraphers. The interment was in Greenwood.

The *Journal* says electrical knowledge will receive the preference. Is it to be understood from this that a certain youthful person now occupying a prominent position gained his elevation by such means? If so the cramming process must have been entered into rather extensively.

The next meeting of the Western Union Athletic Club takes place on April 19th. Entries close on April 15th. The programme embraces walking and running matches, and the distances vary from one hundred yards to five miles. The exercises will terminate in a "tug of war" between the New York and Philadelphia operators.

It will create very little surprise to know that the party who gained such an unenviable notoriety during the billiard tournament at Cooper Union endeavored to repeat the performance at the late walking match at Gilmore's Garden. The feat was not successful, however, as the Company thought it was a little out of pocket, and wisely concluded that it could not afford to put itself under the obligation.

"Put Yourself in His Place," a book written by Charles Reade, should be read by every man who desires to do justice to others, and have the same done to himself. The men in the large delivery offices from 407 Broadway up to 12 West 23d St. feel certain that if Supt. Brown could only put himself in their places for about a week, he would soon see to it that they were no longer compelled to work two evenings each week until 9 P.M.

Gentlemen, do not be too severe when you are disposed to speak harshly of the Executive Committee for sitting two or three hours, and drawing six dollars an hour, while deliberating on the necessity for an additional expenditure of twenty-five

cents. Remember that poor human nature is weak; that the temptation is very great, and that in the course of a few centuries in the regular order of promotion, you may be part of an Executive Committee yourself. You will then have reason to commend your forethought.

By invitation of Manager Downer, Mr. Charles Rowell, the champion pedestrian, Mr. Atkinson, of London, and H. H. Brockway, of the Ashland House, visited the operating room on Tuesday, March 25. While at the Boston printing instrument the "little Cambridge runner" received the following message: "Compliments and congratulations of the printing operators of the W. U. Tel. Co. to the illustrious ped and belted knight Sir Charles Rowell, together with this specimen of printing by the Phelps Motor printing telegraph. Long may you tramp, and never—or hardly ever—drop your laurels for want of a 'lap' to rest them on."

One would infer from what "Marshall" says regarding students at 321 Court Street, Brooklyn, that the office is too small to have even one student; nevertheless, they have four. "Marshall" appears to be a student there himself, and wishes to palm himself off on the public as one of the operators at that office. It is not a fit place for ladies to go into as they are always smoking an old black pipe, which keeps the office full of cheap tobacco smoke at all hours. These students also interrupt business a great deal on the Brooklyn wire after nine P. M. by their constant breaking when they don't get a word, and keep it up until one A. M. I hope "Marshall" will be satisfied that the fraternity know he is running a "plug factory," and that they are not so blind as he thinks they are; and if he wishes any names they will be forthcoming.

C. O. D. FISH.

The Gold and Stock Telegraph Company has established a new department of its business, called the New York Private Line and Telephone Department, of which Mr. Geo. L. Wiley has been appointed superintendent. This department will have exclusive charge of all business relating to private lines, and to telephones used in the cities of New York, Brooklyn, Jersey City and their suburbs. The appointment and promotion of Mr. Wiley is one likely to give general satisfaction. Mr. Wiley entered the service of the company in June, 1869, as a clerk, having been previously employed in a like capacity in the Gold Exchange Bank. By strict attention to his duties and a desire to master the intricacies of the business, he familiarized himself with every detail, and gradually advanced himself in the confidence of his superiors. Although not a telegrapher, he has nevertheless a good knowledge of telegraphy. During his service with the Gold and Stock Company he has filled the position of chief operator and assistant superintendent of the private line department.

The transferring of money by telegraph is rather intricate in character. At 13 West 23d St. office considerable difficulty has been experienced in making customers understand the manner in which it should be done. Mr. William H. Drake, of that office, has, after much thought on the subject, introduced a certain formula, which works exceedingly well. When applicants have made known their wish to send money, they are asked two questions in one breath, to this purport: "Can the party be identified?" "In this way?" Sometimes they say, "Yes," to the first question, before they have had the way pointed out to them by the second. When this has been shown to them, however, they are not quite so sure that they see their way clear after all, as they are told that "they must bring some one to our office, that our folks know, that know them." While they are considering the extent of the knowledge possessed by their folks and our folks, the further information is imparted to them that "there are two ways of doing it. You can waive identification, and we will pay the money at your risk, but use all business precautions, the same as a bank check." At this stage they are generally speaking, in a state in which they can be easily molded into any shape desired, and the rest of the business is plain sailing. The sincere thanks of the heretofore much perplexed gentlemen of that office, and may be of others as well, are hereby tendered to Mr. Drake for his able solution of a very difficult problem.

Another modern Shylock is A. R. Sayre, lately employed on the N. Y. Elevated R. R. His Shylocking consists of lying, borrowing money, and keeping clear of his creditors. He was at one time employed as station agent and operator at West Eleventh Street station, but here he fell behind in

his cash accounts and was suspended; he was then sent to Thirtieth Street station, as gateman, where he worked about a month. Before leaving Thirtieth Street he had borrowed money from the agent and his fellow boarders, and even his boarding mistress, whom he already owed for three weeks' board, and ran up bills at three or four gin-mills in the neighborhood. Last week, on the strength of his uniform and badge, which he still had, he went over the east side route, representing himself to some as the agent at West Thirtieth Street, and to others as agent at West Thirty-fourth Street—assuming the respective names of the agent at these stations for the occasion—and borrowed money from those who believed his story. He said his boy had a broken leg, and they charged him \$10 more for a splint than he expected. He had it all but a dollar or two—according to his judgment of the magnanimity of his listener—"and if you will let me have the dollar I will send it to you as soon as I get back to the station." The foregoing facts are given in the hope that the fraternity may be on the lookout for Sayre, and that the low, degraded state of this man may be a lesson to others as to the power whisky holds over a man who once becomes its slave. U.

A token of our respect should be awarded to Messrs. Morris and Merritt, the telegraphers who officiated on the night of the panic at Gilmore's Garden during the great walk a few weeks since. I was present and in the telegraph office when the structure fell. (Am not entirely recovered from the fright yet). As the crash came I started to my feet with an exclamation of horror as I beheld the balcony give way nearly over my head. With the rest I made a rush for the door, but was drawn back by somebody. I heard sharp commands from Mr. Merritt (manager of the District Telegraph), and immediately, with the aid of operator Morris, the boys under their command (though directly under the gallery) were brought to "attention." I afterward learned that Manager Merritt had drilled them for just such an occasion. Large pieces of plastering and woodwork were falling all around, the house was in an uproar, people were crazy with fright. The gongs of the ambulances could be heard, and, to add to the terror of the scene, stones were thrown by the mob outside. Yet these brave men clung to their posts, uttering words of cheer here and shouts of command there. Finally, I could stand the strain no longer. I imagined I heard the rest of the structure creak, and with a rush I mingled with the crowd and was soon in the street, hatless and breathless, thanking Providence that I had escaped at least with my life. I can still see those two brave men, cool as if nothing had happened (Mr. Morris acted the cooler of the two), clinging to their posts—risking their lives for the sake of the "service." I never wish to witness such a sight again.

XENEX.

Albany, N. Y., and Vicinity.

In reply to Trojan's letter in your last issue, I would say that I was informed in regard to the position taken by the Troy men against plug factories, I made the statement, supposing, as no doubt "inquisitiveness" did, that it was a fact that the Troy men were not doing their duty in breaking up these frauds; but I am glad to know that it was a false rumor, and while I was hasty in making the assertion without further investigation of the subject, I am just as ready to offer an apology, and join with our neighbors up the river in any effort to drive these imposters out of this section. I wish here to mention one Ladow, of Mechanicsville, at one time a plug operator for the A. & P. He has a school at Johnsonville with five students. He tells them he belongs to Washington, is on a vacation, when in Washington gets \$1,500 a year, and can receive sixty-five words per minute! Should not this case be referred to the Shocking Committee? Mr. Clarence Miller, operator at the capitol, has been confined to his house at Valentine, N. Y. for the past month by illness, but is fast recovering, and we trust will be able to be with us again soon. Mr. Austin is endeavoring to handle the business at the capitol office during Mr. Miller's absence. Mr. S. W. Harris, for the past three years night train dispatcher for the D. and H. C. Co. at Troy, N. Y., has resigned his position, and returned to his home in New Jersey. Mr. Harris won a great many friends at Troy, and along the line, who deeply regret his departure. The four hundred gas jets in the new assembly chamber are now ignited by the electric spark. X. Y. Z.

EDISON'S ELECTRIC LIGHT.—After an elaborate technical specification of his invention and of all its details, Mr. Edison sums up his claims in making application for a French patent to protect his electric light inventions in France as follows:

"I claim as my invention—first, the combination with an electric light of a thermal circuit-regulator to lessen the electric action in the light when the maximum intensity has been attained, substantially as set forth; secondly, the combination with the electric light of a circuit-closing lever, operated by heat from the electric current or from the light, and a shunt or short circuit to divert the current or a portion thereof from the light, substantially as set forth; third, the combination with the electric light and a resistance of a circuit-closer operated by heat and serving to place more or less resistance in the circuit of the electric light, substantially as set forth; fourth, the combination with an electric light of a diaphragm operated by the expansion of a gas or fluid in proportion to the temperature of the light to regulate the electric current, substantially as set forth; fifth, the combination with a vibrating body similar to a tuning-fork of mechanism for maintaining the vibration, and magnets, cores, and helices, whereby a secondary current is set up so as to convert mechanical motion into electric force, or the reverse, substantially as set forth; sixth, the combination with electric lights, substantially such as described, of means for regulating the electric current to the same in proportion to the heat evolved in the light so as to prevent injury to the apparatus substantially as set forth."

PERSONALS.

George W. Philbrook, of Portsmouth, N. H., son of ex-conductor Philbrook, of the E. R. R., has been appointed night operator for the Boston and Maine R. R., at Dover, N. H.

The St. Louis telegraphers will give a grand complimentary ball at Masonic Hall, that city, April 23d. The arrangements are all perfect. Invitations can be obtained for those who desire to attend from any of the St. Louis operators.

Amy, aged two years, youngest child of Mr. G. H. Bowker, formerly manager of the Buffalo A. & P. office, but now of San Francisco, died at Monmouth, Me., March 13th. Mr. and Mrs. Bowker have the sympathy of the fraternity in their bereavement.

Ed. H. McGinty, agent and operator, Iowa, Midland R. R., Center Junction, Ia., has been transferred to Low Moor, on the main line of the C. and N. W. R. R.; and Frank J. Mead has been put in charge at Center Junction, to fill the vacancy.

Bacon McQuin, formerly agent at Low Moor, Iowa, on the C. and N. W., will soon shake Iowa dust from his feet, and spend the next six months in Virginia, resting and recuperating at his parental home. Bac. has earned a rest, although the boys are loath to part with him.

We have received from Mr. Gregg, of Cincinnati, who calls himself the true friend of R. M. Hughes, a letter in which he denies some of the statements made by "Logan," last issue, in reference to Hughes, and desires to set that gentleman right before the fraternity. The letter reached us too late for publication this issue.

Pedestrian-ously speaking, Mr. G. Jefferson Frankel, manager at Jefferson, Texas, "takes the cake" for endurance, speed and bravery. He has a record of walking a mile in forty minutes through a furious rain storm, with most of the town afloat, through Texas clay and deceptive quicksand, to tell a lady friend that "the weather was most too inclement to attend the intended entertainment."

U. S. M. T., TEXAS DIVISION.—At headquarters, Denison, Wm. T. Blythe is manager. T. W. Milburn has been promoted to be manager at San Antonio. W. J. Crindall, an old-timer, is at Concho. E. G. Prince, formerly at Eagle Pass and Fredricksburg, is in charge of the Fort Stockton office. Jerome Williams is at Brownsville. Line was completed from Fort Davis to El Paso, Tex., February 5th. This gives through communication to the Southern Pacific.

Declining health having forced Mr. R. E. Duke to resign as manager of the Western Union Telegraph Company's office in this city, Mr. Eugene R. Dodge has been appointed his successor. Mr. Dodge has been an operator in the office here for several years, and is not only a fine telegrapher, but an agreeable gentleman. He will make his company a capable

and faithful manager, and at the same time prove popular with the business men of Charlotte, and other patrons of the office here. Mr. Duke, who is still at his former home at Louisa Court House, Va., is able to be out of bed, but is still very feeble:—*Charlotte, N. C. Observer.*

Mr. Frank M. Williams, alias "Madison," of Edwardsville, Ill., has written to the St. Louis *Globe-Democrat* accepting, with some amendments, the challenge of Robert M. Hughes referred to in last issue. Hughes, however, took no notice of the acceptance, but a St. Louis operator did. Mr. Chas. E. Bacmeister, of the W. U. office, in a letter to the *Times-Journal*, of that city, offers to take Hughes's place in the contest. Then it was Williams who failed to answer. He, however, said over the wire that he had concluded to let the matter stand as it was; that he denied his article only for Hughes, whom he thought he could "bluff off," but got "bluffed off" himself instead.

There are a great many operators throughout Canada who are in the possession of a considerable amount of ability, and who, if they would, could not only amuse and instruct us, but add largely to the interest of your paper. I fear one of their greatest reasons for remaining silent is that they fancy because your paper is an American publication, they have not the same right and privilege as the American operators. I don't think I am wrong in stating that this is not so, but that we all have equal rights and privileges to make ourselves known. I for one am determined to lie dormant no longer, but arise and shake off this spirit of indifference which I know has not only kept myself but many others from writing items that would be of interest to us all. CANADA.

GRAND RAPIDS, MICH.—Mr. Jas. S. Many, for several years Assistant Dispatcher at this place for the G. R. and I. R'y, has been promoted to night dispatcher for the same company at Fort Wayne, Ind. "Jimmie" is a good man, and well deserves the preferment. Our old reliable friend, Geo. Ranch, agent and operator at D. and M. Junction, returned Saturday eve last from the east, bringing with him a wife. Who next? Madame Rumor says "Watson. Jimmie Hawkins has been confined to his room by illness for a week, but is fast improving. His many friends will be glad to know that George Dunlap has secured a good situation, having been given charge of the telegraph office of the G. R. N. and L. S. R'y in this city. The Western Union Telegraph Company has moved its operating room from the basement to the receiving room on the ground floor, No. 3 Canal Street, and made some other changes which improved things by a "large majority."

GREENVILLE AND COLUMBIA, R. R.—I give you a few "dots." The Superintendent's office is in Columbia, where Major A. J. Dodamead, Assistant-Superintendent and General Supervisor of trains, and Mr. McCants, overlook trains from "Q" office. Mr. Murphy takes care of Alston. J. R. Langford is agent and operator at Prosperity, and is as good a receiver as we have. Mr. L. C. Angel waits electricity from Newberry. C. H. McDaniel works Helena. G. T. Reid looks after Chappells. T. C. Greene works the wires from Ninety-Six. T. B. Anderson answers calls at Greenwood. W. H. Rowlett is at Hodges. P. D. Mazzyck is operator at Abbeville. Duff Sloan is at Belton. Ed. Cashine at Anderson, and W. B. Vaughan at Greenville. All our commercial business going over other lines is relayed at Columbia office, of which Mr. Howard is manager, assisted by Messrs. Howard & Tebeau, all of them fine operators.

CINCINNATI SOUTHERN R. R.—The following operators work the C. S. with Sam'l Hunt, dispatcher, and T. W. Coolidge, assistant, both warm-hearted gentlemen and good telegraphers: O'Brien at general office, Tanner at Ludlow, Moffett at Walton, Dill at Williamstown, Black at Corinth, Blackwell at Sadieville, Craft at Georgetown, Willis at Lexington, Fishback at Nicholasville, Smith at High Bridge, Chambers at Burgin, Bibb at Danville, Calvert at Dan Junction, Schultz at McKinny, Carey at Kings Mountain, and Bradford at Somerset. We have but two "owls," Keller, at Lexington, and Dennis Ludlow. "Pug manufacturers" are scarce on the line. Willis, at Lexington, has turned out one or two, and I 13 has two more on hands. A gentle reprimand would do him good. Dill, at Williamstown, is teaching some one, judging from the dots and dashes murdered at that point in reporting trains. Born to the wife of E. Fishback, Nicholasville, on the 17th, a boy.

POST EADS, LA.—Considerable has been written about Post Eads and its people, but very little of its operators and telegraphic communication with the outer world has appeared in the columns of your invaluable paper. One hundred and twenty miles south-east from New Orleans by river stands this thriving little town, pushed boldly out into the sea, and built on piles, it looks something like a second Venice, only that we miss the gondolas of that ancient city. The Good Intent and Ocean telegraph lines connect Post Eads with the city of New Orleans, and are worked in the interest of the two tow-boat companies of that name, and three others, forming the New Orleans association of some twenty odd powerful steam tugs doing the towing for all its shipping. Two offices and two operators constitute the force of the two lines at this end. Both companies are worked in harmony now, and all is very quiet and peaceful in the two families. We have seven offices on each line, giving employment to many operators. Ten hours for a days' work, and no night messages received by either line, gives us altogether quite an easy time of it. A. W. W.

At the monthly meeting of the Electrical Society of the Ohio Valley, in Cincinnati, March 19th, some fifty or sixty members were present, Pres. Johnson in the chair. The quarterly reports of the officials were submitted, and showed a very satisfactory condition of affairs; over a hundred active members—a considerable surplus fund in the Treasury—and a very considerable library of valuable standard electrical works, and to which it is proposed to make additions from time to time. Dr. Vance, formerly of New York, but more recently of Gallipolis, Ohio, was introduced by the President, and read a very able and interesting paper on "Animal Electricity, and its Relations to Functions of the Nerves and Muscles." Mr. J. W. See, of Hamilton, Ohio, followed with a paper describing an invention he claimed to have made some two or three years ago, but which, for various reasons he had never before made public. The instrument and devices, he claimed, would transmit facsimiles of any species of pen or pencil work, and said that a transmitting pencil and apparatus in Cincinnati, for instance, would control the simultaneous movements of a receiving pencil and apparatus in Chicago or New York, transmitting any kinds of lines or figures with equal facility. Mr. See illustrated his paper with various diagrams showing the plan of the instrument. We shall probably hear from this invention again.

Having business in Portland, Maine, recently, I improved the occasion to call upon the boys at the Western Union office. The first to greet us was E. D. Livermore, the genial manager. Mr. Livermore has been in charge of the office for eight or nine years, is a thorough gentleman, and understands his business. The next I saw was D. C. Shaw, better known among the fraternity as Oney Gagin. Oney is chief operator, and always has a smile and a pleasant word for all. Next was James Malone, who looks out for business on the western side, and relieves on duplex. Then I met E. W. A. Rand, who works one side of the duplex. Neddy is an old, reliable, and fearless of a salt. Next to greet me was George W. Wood, the day report man. George's little weakness is waltzing. Then came A. G. Saylor, brother of E. B. Saylor, who runs 2, 4, and 5 east. Next was A. C. Preble, who runs 2 and 3 Montreal wires. "Fatty" has worked these wires for four years, which, he says, is just four years too long. Then came C. M. Berry and James E. Crane. The above constitutes the day force. The night men are: M. P. Austin, an old timer, who has taken the night report at Portland for twenty-two years, and Jared Crane, who looks out for reds and midnight signals. Jared is also an old timer, and has worked his present trick for a number of years.

TORONTO.—The Dominion Telegraph Company have just succeeded in getting an amendment to its charter passed through our Houses of Parliament. It empowers the company to lease its lines to any other company. The other alterations are not important. The Direct Cable Company is also engaged in getting a bill put through extending its powers to Canada. The new tariff put into force on the 15th inst., increases the duty on telegraph wire to 15 per cent. It was free a few years ago, but in 1874, a duty of 5 per cent. was put on. Insulators have been put up to 30 per cent., and instruments will be, so far as I can make out, either 20 or 25 per cent. The list does not make it very clear. Telephone business is good. The Telephone Dispatch Company of this city has just got fairly to work, and expects to have a hundred subscribers in less

than three months. Their private line department is doing very well. Some ninety telephones already in use. They use Bell telephones, and their switch, etc., are from Messrs. Davis & Watts, of Baltimore. The arrangement is very effective and complete. The Montreal Telegraph Company, acting as agents for the American Speaking Telephone Company, have put in two or three Edison's transmitters, and a few crown telephones. I hear they are to be manufactured here very soon. The telephone infringement suits will come on in the court of Chancery here in May. The Toronto Telegraph Company, a district concern, was sold by the sheriff a few weeks ago for about 20 per cent. of the original cost. The purchaser is the Toronto Telephone Dispatch Company, which has transferred the whole business to its office. Telegraph stocks are low; Montreal Company about 104, and Dominion about 60.

OMAHA.—Mr. Thomas M. Orr, clerk and assistant operator M. P. R. R. transfer freight office, Council Bluffs, Ia., has recently resigned to accept the position of agent for the K. C. St. J. and C. B. R. R., Transfer Winthrop, Mo. While Tom will be greatly missed by his many friends in Omaha and Council Bluffs, they will be glad to hear of his advancement. Mr. J. B. Cromwell, extra operator Eastern Division M. P. R. R., has been promoted to be agent for that road at Overton, Neb. Mr. E. B. Conklin, of Kearney Junction, Neb., was in the city on the 12th. Mr. F. L. Wilson, agent and operator C. P. R. R., Keene, Cal., with his family, is visiting friends at Lincoln, Neb. Mr. Wm. A. McElroy, an old-time operator, but now passenger agent of the Baltimore and Ohio R. R., came in from the West a few days ago after an extended Western tour in the interests of his company. George W. Dickinson, train dispatcher U. P. R. R., was married on the 19th ult. to Mrs. Ella C. Taylor, of Omaha. Mr. G. M. O'Brien, it is said, has also become infected with the contagion so prevalent among the dispatchers of the M. P. Mr. L. H. Korty, chief operator of U. P. R. R. wires, who has been confined to his room for several days, is able to be around again. In W. U. "Om.", L. H. Fisher, has returned from a Southern excursion, very highly pleased therewith. The boys want to know "whose turn next?" In this office there is a new rival of the "Canadian champion" who was mentioned in the columns of THE OPERATOR a short time ago. This gentleman (?) has gained for himself an unenviable reputation in this and other cities where he has worked. His latest exploit is the report he made that the whole night force of "Om" was "beastly drunk" while on duty a certain night, and that this was by no means an unusual occurrence. It did not require the affidavits of the chief, Mr. Gramzow, and his operators to brand this as a slanderous lie. A glance at the "office record" was sufficient. That such men as this could be sustained in the employ of the company has long been a matter of surprise, until his defiance of the Chief Operator developed the fact that there is an invisible power which might be put to better use than the upholding of such characters. RANDALL.

MARRIAGES.

AUSTIN—BRETT.—March 25th, at Albany, N. Y., by Rev. J. Humpstone, W. A. Austin, of the W. U. office, to Miss Florence A. R. Brett. No cards.

KINGWILL—McDOUGALL.—February 24th, at 50 South Ada Street, Chicago, by the Rev. J. M. Worrall, D.D., J. H. Kingwill, operator at McCor. mick's reaper works, to Miss Margaret McDougall.

RAUCH—McFATRIDGE.—March 5th, at Ida, Mich., Geo. D. Rauch, operator G. R. & I. & G. H. D. & M. R. Rs., to Miss Fannie McFatrige. It is hoped that their "circuit" of happiness may be long and too strong to be "grounded" by "crosses."

DEATHS.

CLUM.—March 19th, at Jersey City, Mrs. Olivia H. Clum, wife of Wm. B. Clum, assistant chief operator at 145 Broadway, New York, A. P. office. The funeral took place on Sunday, the 23d, and was attended by many telegraphers, some, like Mr. Clum himself, pioneers in the business. The services were conducted by Miss Phebe A. Hanaford, pastor of the First Universalist Church, who delivered a very affecting, eloquent, and impressive address.

GOODYEAR'S POCKET GYMNASIUM.

The Most Complete System of Physical Exercise that has ever been devised for Home Practice.



Serious doubts exist as to the advantage to be derived from the more exhausting exercises of the gymnasium; there is, however, but one opinion among medical authorities as to the value of the milder form of physical culture known as light gymnastics; and it is the object of the invention which is here introduced to supply, in the most compact and useful form, all the apparatus required for the best development of physical power, in both sexes and at all ages.

It is admitted that sound health and symmetrical growth cannot be secured and maintained for a prolonged period without a perfect circulation of the blood. Congestions of brain, or stomach, or liver, or other internal organs, must ultimately follow a life without activity—a life of partial torpor. The man of business, the professional man, uses the brain excessively, but neglects the body. By and by, brain and body break down. If the blood had been sent actively to every tissue and fibre by physical effort rightly directed, body and brain would not wear out in a century. What is true of the professional, or business man, is true of the woman in her home, the operator at his desk, the child in school. All these classes are employing the brain more or less actively, and all are exerting one portion of the physical structure while other portions are neglected. The right hand of the penman is over worked, as is the lower extremity of the sewing machine operator, while the muscles of other portions of the body, with all their interlacing network of nerves and blood vessels, are permitted to remain inactive and comparatively unused. The consequence of this unequal exercise is made apparent in many ways. There is deformity of the chest and back, a curvature of the spine, a flattening of the thorax, a lessening of the breathing space, a weakening of the heart's action and a general loss of vital power.

It is neither difficult, nor onerous, nor expensive, to keep the human frame in perfect condition by the means which are here indicated. The emotions attending the use of the tubes are only those of satisfaction and pleasure. Young persons enter into the exercises with the keenest zest, relinquish them with reluctance, and return to them when the appointed hour arrives with the liveliest expressions of delight. The brain-weary scholar finds ever-renewed exhilaration and mental elevation from their regular, daily use. The worn and weary woman acknowledges the sparkle and glow which comes from a few moments' daily practice with these health-giving appliances. Even the bed-ridden invalid, or convalescent, unable to walk, and without the power to take exercise in any of the ordinary modes, can find something of invigoration by toying with these life-giving tubes; while the active brain of the person whose toil throughout the day has banished sleep at night is lulled to repose by the equalization of the circulation which a few moments' exercise with these tubes induces.

Price List of Goodyear's Pocket Gymnasium.

No. 1.—For Children from 0 to 6 years.....	\$1 00	No. 4.—For Children from 10 to 14 years.....	\$1 30
No. 2.—“ “ “ 6 to 8 “	1 10	No. 5.—“ Ladies and Children, 14 years and up. 1	40
No. 3.—“ “ “ 8 to 10 “	1 20	No. 6.—“ Gentlemen of moderate strength.....	1 50
No. 6.—With Handles, screw-eye, and hook.....	\$1 75	No. 8.—For Gentlemen of extra strength	\$2 50
No. 7.—Used by Ladies, Children, or Gents.....	\$2 00	Goodyear's Patent Health Lift Complete.....	\$5.00

Nos. 6, 7 and 8 are fitted with a screw-eye and hook, to attach to the wall or floor. A pair of No. 7 (\$4.00), or 8 (\$5.00), make a Complete Gymnasium. Extra hooks, 5 cents each, or 60 cents per dozen. "BLOOD AND BREATH." By Prof. J. E. Frobisher, to accompany Goodyear's Pocket Gymnasium. Price 25 cents. We send these goods to any address, post paid, on receipt of price.

The Goodyear Patent Health Lift.

The apparatus consists of five pieces: the Lifting Board, mounted on small rubber balls; two heavy Rubber Tubes about a foot in length, and two detachable Handles. Complete, it weighs about 3 pounds.

It may be used in a standing, sitting, or reclining posture. When operated in a standing posture, the head should be held erect, and when reaching downward, the knees should be flexed, observing not to bend the spinal column, either backward or forward.

When exercise for the muscles of the back is desired, it is safer and pleasanter to employ the sitting posture. This position, likewise, gives great freedom for either limb or arm movements. By occupying a low stool or ottoman, the largest liberty is obtained for bringing into vigorous and harmonious action the muscles of every part of the body. The extremities are thus warmed, the circulation equalized, local congestions relieved, and the vital forces stimulated. The supine position favors deep breathing, and secures an alternation of complete rest with each expenditure of muscular effort.

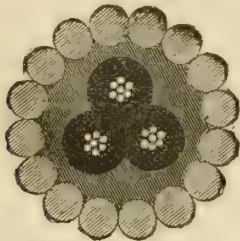
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of the BISHOP GUTTA-PERCHA WORKS, begs leave to announce the acquisition of the exclusive right within the United States and the Territories thereof, to manufacture and sell Gutta-Percha Covered Wires of every description, under Letters Patent of the United States (No. 65,019), dated May 21, 1867, granted to Geo. B. Simpson, now owned by Clinton G. Colgate, for the use of Gutta Percha as a covering or insulator of wires for atmospheric or submarine telegraphic communications or for other electrical purposes, the validity of said Patent having been established by a decree made by the Circuit Court of the United States, held in the City of New York, dated Dec. 8, 1878.

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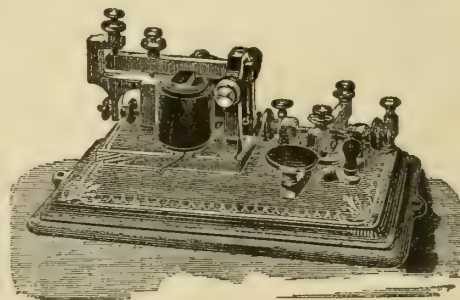
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The OPERATOR

A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY.

VOL. X.

NEW YORK, APRIL 15, 1879.

No. 8

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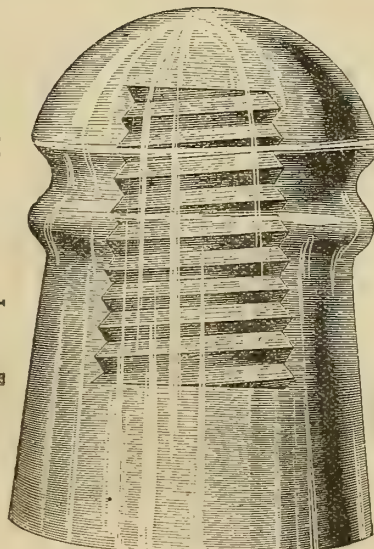
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THE OPERATOR A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY

April 15th, 1879.

Volume X.

Whole No. 124.

Song of the Wire.

I span the width of the mountain stream,
And rest 'neath the waves of the ocean,
I encircle the world with my power supreme,
And express every human emotion;
O'er the mountain's top, where the banks of snow
Lie unharmed by the summer's sun,
From above the clouds to the world below,
Over rocks and chasms my course I run!

Through the solemn depths of the forest still,
Where echoes the wild bird's song,
O'er the valley so fair and the verdant hill,
I silently stretch along.
I tell of fortunes lost and won,
Of lives that come and go,
Of evil acts and deeds well done,
Of pleasure and sorrow, joy and woe.

Thought my mistress is, and I
Fly swift her message to deliver,
Passing all my rivals by,
Flashing o'er the brook and river,
Hanging here 'twixt earth and heaven,
Am I mortal or divine?
From above my power is given,
For the lightning's wing is mine.

Winged thoughts their way pursuing
Through this iron heart of mine,
Tell of what the world is doing,
Passing on they leave no sign,
But from point to point they flash,
Space o'erwhelmed by human cunning,
By the mystic dot and dash
Thought with Time a race is running!

J. C. S.

Writer's Cramp and Telegrapher's Paralysis.

Readers of THE OPERATOR will remember the discussion in these columns some time ago in regard to telegraphers' paralysis, as well as the announcement that Dr. George M. Beard, an eminent physician of this city, was investigating the subject, and requested correspondence and information from those suffering from this or kindred affections. Dr. Beard has just published his conclusions, which were recently read before the Medical Society of the State of New York. These have been arrived at from the study of one hundred and twenty-five cases, and as the doctor has favored THE OPERATOR with a copy we take pleasure in laying them in a somewhat condensed form before our readers.

The investigation has not of course, been confined exclusively to telegrapher's cramp or paralysis, but includes also writer's cramp, musician's cramp, the cramp of sewing women, etc. The conclusions arrived at are based upon study in Dr. Beard's own practice, as well as conversation and correspondence with physicians and sufferers from all parts of this country and other countries, the investigation having extended to England, Germany, and Australia. The main results are stated in eight propositions:

First.—What is called the cramp is but one of a large number of the symptoms of this disease, and no two cases are precisely alike.

There are at least fifteen or twenty other symptoms of this disease. The recognition of these symptoms, especially in the early and premonitory stage, is of the highest moment, for the reason that in the early stage the disease is curable. The cramp in those cases, where it appears, is oftentimes one of the later symptoms, and bears much the same relation to the disease that the symptoms of the ataxia gait bears to the disease locomotor ataxia. In some cases there is no cramp from first to last, and in all cases the cramp is preceded or accompanied by other symptoms.

Secondly.—Also in the other forms of professional cramp, as that of telegraphers, musicians, (violinists, organists, pianists, harpists), sewing-women, painters, artists, dancers, hammer-palsy, and so forth,

the cramp is but one of a number of symptoms, and by no means always the most important symptom; and, as in writer's cramp, there is frequently no cramp at all from the beginning to the end of the disease. An analogous disease, that has not been described, is the counting-money cramp, from which a lady clerk in the Treasury Department at Washington once suffered; it is caused by excessive and restricted use of the fingers in handling bills.

Thirdly.—This disease is primarily a peripheral and local disease of the nerves and muscles; secondarily and rarely it becomes central and general, or it may result from various central lesions; and it may affect any point between the extreme periphery and the center.

The detailed pathology of writer's cramp is not simple, but complex; in some cases there is neuritis which may affect a single nerve-branch or several nerve-branches, and may be restricted to the fingers and hand, or extend up the forearm and arm; then the muscles may be merely exhausted—chronically fatigued—or with a tendency to spasm and contracture. The worst phase of the disease that I ever saw was in 1874, with Dr. Brodie, of Detroit; in that case the arm was drawn over to the back, and held firmly there by the contracted muscles; the patient was unable to use his hand for any purpose, and also suffered great pain. In some cases the disease, or rather the tendency to the disease, is hereditary—two and three cases having been known in a single family.

Fourthly.—This disease occurs mostly in those who are of strong, frequently of very strong, constitutions, and is quite rare in the nervous and delicate; and when it does occur in those who are nervous, is easier relieved and cured than when it occurs in the strong. This fact is not peculiar to writer's cramp, but applies to other nervous diseases, as impotence, muscular atrophy, and ataxia. I see every day cases of nervous exhaustion (neurasthenia), in its various forms, and quite rarely do I see writer's cramp in them; and when they do have this disease, it is mild and curable. I have successfully treated a number of these cases.

Fifthly.—This disease is far less likely to occur in those who do original work, as authors, journalists, composers, than in those who do routine work, as clerks, book-keepers, copyists, agents, and so forth.

The reason is clear. Original thinkers must take time for thinking as they write, and thus they rest the nerves and muscles of the hand; while routineists, having little or no thinking to do, write on constantly and uninterruptedly, oftentimes at the extreme of their speed. In some cases an attack of writer's cramp has followed a single task of long copying. In one of my cases—an authoress—there had never been any sign of the disease until she performed a task of routine work. Of my cases eight were physicians, eight were lawyers, five were clergymen, and the remainder were clerks, book-keepers, agents, copyists, and merchants. Men who write bad, scrawly, illegible hands never have writer's cramp; it is the penalty for writing plainly and carefully. Like prevents like, and those who always write as though they had writer's cramp never have it.

Sixthly.—This disease, like all nervous diseases in this country, diminishes in frequency as we go South.

In the Gulf States writer's cramp and maladies allied to it are very rare. The same is true of hay fever, which is a type of nervous diseases; and, indeed, of the whole family of functional nervous maladies, such as sick headache and neurasthenia, or nervous exhaustion in all its manifestations.

Seventhly.—Writer's cramp is no longer an incurable disease.

In the early and forming stage, especially, it responds to treatment quickly, and in many cases permanently. During the stage of exhaustion, fatigue, and pain, with the other symptoms of numbness, neuralgia, irritability, trembling, powerlessness, soreness, coldness, stiffness, and so forth, this disease can be treated as satisfactorily as almost any other form of nervous disorder; and, even when cramp or spasms of the muscles have appeared, it may be entirely cured. In the later stages, after the symptoms have existed for years, the malady may become absolutely hopeless, even though the patient abandon his occupation. I have seen cases that have been afflicted for over a quarter of a century. One striking case of this kind I had opportunity to see through the courtesy of Dr. W. C. Wey, of Elmira, N. Y. Both hands were affected, and the numbness and powerlessness were so marked that sometimes a newspaper that he was reading would drop to the floor. The whole body seemed, indeed, to have been disturbed, and he had

been obliged to give up his position as cashier of a bank. In all these cases, the prognosis is better in nervous and delicate patients, than in those who are plegmatic and strong.

Eightly and lastly.—The treatment of writer's cramp and affections allied to it consists:

1. In the use of electricity locally applied. Both galvanic and faradic currents may be used—preferably the former. In some cases galvanization of the spine and neck, and what are called spinal-cord nerve-currents, are indicated. Strong galvanic currents, with metallic electrodes, I have used with advantage in some cases where mild currents seemed to do no good. The wire brush with the faradic current I often use, and in some cases electro-puncture.

The relief of pain and fatigue that follows these electrical applications is immediate and uniform, and most grateful to the sufferer; and this temporary effect can be obtained even in the worst cases. I have not yet been able to demonstrate any very marked advantage from the rhythmical movements of the muscles in connection with the electrical applications.

2. Hypodermic injections of atropine, strychnia, duboisia, Fowler's solution, and other tonics, narcotics, and sedatives. These remedies need often to be gradually pushed to their physiological effects. Electricity and hypodermic injections combined have made an epoch in the treatment of writer's cramp. The evil effects of hypodermic injection are guarded against by care in preparing the solutions, by dilution of irritating substances, by moderately deep puncture, and by substituting other treatment in those cases where, from any constitutional tendency, suppuration is easily excited.

3. The internal use of calabar bean, ergotene, iodoform, and in some cases of nerve-food, as oil and fats. It is useless, in the majority of severe cases, to dally with mild remedies or ordinary tonics.

4. Massage, or systematized kneading and manipulation of the muscles, with friction, and pinching, and pounding of the skin, and passive movements of the joints, large and small. Dr. Douglass Graham, of Boston, has used this method with very encouraging success. I now employ it in all my cases. The whole arm should be treated.

5. The use of dry heat and dry cold, by rubber bags containing hot water or ice. These may be used alternately.

6. The actual cautery and very small blisters to the upper portion of the spine, or along the course of the affected nerves and muscles. Rest alone, even long abstinence for many months from writing, will not cure writer's cramp, as has been proved by the experience of many cases. The best results I have ever had have been made with cases that kept right along with their occupation—although avoiding excessive work—with the aid of mechanical appliances. Among the hygienic devices for the relief and cure of writer's cramp are the following:

1. The device for holding the pen—a ring penholder—so as to relieve the thumb and fingers. An excellent arrangement of this kind has been perfected by one of my patients. By this contrivance the thumb is allowed perfect rest, and the index finger and second finger are united by rings so as to make practically one finger, which is attached to the pen holder. The over use of the muscles most liable to be involved in writer's cramp is thus avoided. The gentleman who perfected this ring penholder was himself substantially cured of a bad form of writer's cramp by its use in connection with electrical and other treatment, as above described. He is a bookkeeper, and can now follow steadily his occupation, although troubled at times with symptoms of weariness. He kept right on with his occupation during treatment.

2. The type writer is destined to be of great practical service to writer's cramp sufferers, as well as to those who, though not having the cramp, are made generally nervous and locally tired by the mechanical labor of writing.

3. The use of large pen holders, so that the muscles may be less restricted; fastening a piece of sponge to the pen holder, so as to relieve the pressure of the fingers. One of my correspondents writes me that he used this device for a year.

4. Holding the pen between the different fingers, thus relieving the thumb and index finger. One of my medical friends finds great relief by this device.

5. The use of quills and very flexible pens, and pens with very broad points, so as to run easily like quills. Some pens have been sent to me from Germany that are made with this special object in view. The use of the lead pencil is also a great relief. The mica pen and the Esterbrook stub pen are worthy of trial.

6. Frequently changing the pen and the penholder and style of pen, so as to change the mode of action of the muscle. Dipping the pen for ink is usually regarded as an evil, but it doubtless saves many of us from writer's cramp.

7. Changing the position in writing, as from sitting to standing, or holding the paper in the lap. These methods of relief are to be commended, especially for those who are just beginning to have the symptoms of the disease, who are yet in the stage of exhaustion. It is a mistake to always try to point the pen toward the right shoulder. When utterly tired out, it is well to stop entirely.

The avoidance of faulty and painful methods of writing, and the study of easy, natural methods. A person who writes a cramped and stiff style, no matter though it be a legible one, is a fair subject for attack, especially if writing occupies most of the time. This factor is of great importance. An eminent author and journalist is accustomed to put his pen in the penholder at an angle of several degrees backward, and thus is able, as he tells me, to write consecutively over forty words a minute.

9. Writing with the left hand. Out of eighteen cases that tried this plan, three failed utterly, six were partially successful, and nine were completely successful. In the six partially successful cases the disease either appeared in the left hand, or after a time showed a tendency to appear there. At the beginning of the disease, educating the left hand may be of itself sufficient for a cure.

10. The use of various gymnastic and athletic exercises, as rowing, paddling, and so forth. In some cases the sufferers are unable to do many other kinds of work; carrying bundles or turning door knobs hurts them just as writing does; but such cases are exceptions.

I have made many experiments with a view to determine the average speed of handwriting. I find that between twenty-five and fifty words are written in a minute by those who are accustomed to write, the average being perhaps about thirty words when no time is lost in thinking, or dipping the pen.

Mr. T. A. Edison, the inventor, is also an expert in handwriting, and I have made with him a number of experiments in order to test the rate of speed of different varieties of penmanship. When he writes slowly and with care—from fifteen to twenty-five words a minute—Mr. Edison's handwriting is phenomenally clear and beautiful, resembling copperplate printing; not in a flowing, but in a cramped hand, the letters being often separated as in print. When he rises to forty words a minute, the writing is still more cramped and less beautiful, though yet legible; with forty-nine words a minute, his writing is quite illegible.

I find that journalists write with a lead pencil—which, as a class, they generally use—from forty to fifty words a minute. Experts on the type writer, according to my experiments, can print for a short time at dictation from seventy-five to one hundred words a minute; but in practice, very few of those who use the instrument put down on the average more than half that number.

A number of years ago a man attempted on a wager to make with a pen an enormous number of up and down strokes—a million, I believe, within a month or less time. Swelling of the hand and wrist, with severe pain, so annoyed the experimenter that it was necessary for some one to stand near him and pour on cold water, and apply various lotions. In this cramped and continuous movement and tension of muscles is found the philosophy of all these forms of professional cramp. I have made some experiments with myself in order to ascertain just how many single disconnected up and down strokes I could make with a pen; and find that from 175 to 200 a minute is about the limit, and very soon the hand becomes wearied. A friend of mine, connected with the Surrogate's office in this city, tells me that the clerks in that department sometimes complain of swelling of the wrist from over-writing.

Mr. Edison, whose amazingly fertile mind is constantly making original suggestions even in departments quite remote from his own, showed me not long ago the following fundamental experiment. A small rod of steel or iron, or other hard substance, about one-third of an inch in diameter, is held very firmly between the thumb and forefinger of the left hand; very soon there comes a pain in the adductor of the thumb, which may be unbearable. This position is a familiar one to manufacturers of electrical apparatus, since it represents their method of winding wire on bobbins. [Since this was written my attention has been called to two cases of Bar-

ber's Cramp from the excessive handling of the razor in the operation of shaving.]

The above practical conclusions in regard to treatment apply to the other forms of professional cramp, as that of telegraphers and musicians—violinists, organists, pianists, and harpists; also to the cramp of artists, painters, engravers, and sewing women. Telegraph operators have two forms of cramp—the ordinary writer's cramp, from receiving and writing out messages; and true telegrapher's cramp, from striking the index finger on the key. The malady is quite a common one among telegraphers; and an attempt has been made to reduce its frequency by the use of a rubber cap on the button on which the finger presses in sending. This device is, I understand, but partially successful.

The Modern Benedict.

While the recent epidemic of happy marriages in our profession bear testimony to our prosperity, the glowing epithalamiums written thereon have been so disingenuous and biased that the younger portion of our community are in danger of being tempted to follow in the footsteps of their elders without a word of warning with regard to the necessary preliminaries. The young man who is struggling with a weak mustache suffers agony enough, and it would be pure heartlessness in us to permit him to rush unprepared before an admiring public as a real, live Benedict. Indeed, many unsophisticated young men, through pure lack of instruction, and fired by the profuseness of the blessings showered upon their elders, have recently been detected entering wedded life without so much as even the necessary precaution of having the flat irons upholstered, and the family broomstick well bound with cotton wadding. It may not, then, be amiss for one who has had some experience, and who has accumulated the customary variety of rising operators, to offer a few remarks upon some of the routine duties of the modern Benedict.

The position of a Benedict is considered—by the man who keeps the corner grocery—as one of great "trust," although there is little more than a common local fame attached to it; and the routine duties are confined to those purely of a social nature. For instance, the better class of housewives, under the able coaching of the conventional mother-in-law, have always insisted that a wagon load of coal should never be dumped direct from the wagon into the front window of the cellar, but that, to insure success and domestic discipline, it should be transferred by the wheelbarrow load to the back-yard, and carried thence in very heavy and clumsily built buckets to the cellar. Now, no sensible housewife would dream of performing this athletic accomplishment herself, much less would she expect any one but her own dear Benedict to perform it; and, though pious but infirm Benedicts—very pillars of the church—have been known to swear like troopers (since the process requires about four days of intolerable anguish), it has been generally acquiesced in by enterprising and model Benedicts. Properly trained wives—and, in due time, daughters—are religiously impressed with the idea that a Benedict who is worthy of that name is a bloated capitalist with lots of money, or possessed of some invisible means of conjuring up an unlimited number of expensive hats and bonnets; and any well regulated female would point the broomstick of scorn at an alleged Benedict who could not bring home on her simple demand, a bran new silk dress. While a thoroughly disciplined Benedict has very little control in domestic affairs, he is expected to represent nominally the family on all state occasions—and to defray all expenses, for which purpose he is permitted, without obtruding himself too prominently, to accompany the family on pic-nics, croquet parties, etc. He must be gifted with voluminous conversational powers without entertaining any distinct opinions in opposition to his better half, and he must have his life heavily insured in a standard company for the benefit of her next husband. If he should be so unfortunate as to stay out until three o'clock in the morning, it is demanded of the accomplished Benedict that he cease his wild refrain at least half a mile from his own house, so that his wife may sleep in comfort, even though he may have waked up two-thirds of the inhabitants further away. And if, in returning at this unseasonable hour, he happens to be wearing a hat four sizes too large for him (taken in mistake), and to have a streak of yellow mud up the back of his dress coat, he must be able to creep up stairs with his boots in his hand, and to crawl into bed successively without disturbing the peaceful slum-

bers of his domestic principal. For emergencies, he is required to be able to wield a club like a drum major, and to get out of bed without complaining at least four times every winter's night, at his wife's suggestion, to explore the coal cellar (which is knee deep in water), in quest of alleged burglars. He must be prompt to rush out into the street to do battle with a seven-foot costermonger or a three hundred-pound dusty ash-man, on the complaint of his acknowledged better half that that "horrid man" muddled her doorsteps with his brogans. Then when the burly ice man comes to deliver your family supply, and flings about twelve pounds of it through your parlor window, thus tearing out half of the window sash, and breaking a seventy-five dollar mirror inside, the unfortunate Benedict, though he be only five feet high, is expected to leave off chopping the family wood, and to rush forth in savage haste to engage the ice man in mortal combat, while the latter is a professional prize fighter, and defends himself with a pair of heavy ice tongs and a sharp hook. Society commands the professional Benedict—later on, of course—to get up at night, and pace the room with a colicky baby, and then holds him up in the newspapers to public scorn for having performed that duty, while he himself, with the inevitable cold in his head, sits down next day to read how funny it is.

If the average Benedict's constitution should prove so robust as to permit him to pull through and become old, there ensues a vast amount of misapprehension in the family circle with regard to his particular position; and there is even a growing belief that the older the professional Benedict grows the more he gets in the way. He is accordingly, after reaching the absurd old age of sixty years, put to whitewashing the cellar, shovelling in the supply of coal for his wife's widowed sister (who keeps a boarding house) wearing out his wife's brother's old clothes; defraying the entire expenses of his cousins and his aunts—on the wife's side—and all those other noble and highly intellectual duties which seem to be so dear to the true Benedictine heart.

Carping critics, and old women with marketable daughters will, of course, pick flaws in this review of a Benedict, and will assert, no doubt, that it is positively a fiction. I may as well admit that an odd, heterodox Benedict here and there has been known to call policemen to watch for burglars; to hire a nurse to mind the baby, and to keep servants to attend to the other duties which nature has allotted to him; but I can assure the critics that such sneaking and nefarious subterfuges are looked upon with much disfavor, and are everywhere frowned down by the higher and orthodox circles of faithful and professional Benedicts.

There are others, again, who will feel that they have hitherto been widely astray in their notions of those mysterious beings classed under the generic title of "Benedict," and they, doubtless, will smile sweetly, and wink a knowing eye when the next young man stands up, and proudly introduces himself to the world in the great moral spectacular role of A BENEDICT.

WERNER.

The New Telegraph Company.

The American "Rapid" Telegraph Company enters the field with a flourish of trumpets that those who wish it well will not be pleased to see. It proposes to perform wonderful achievements and inaugurate startling reforms. A thousand words a minute are to be transmitted over a single wire; 30-word ordinary commercial messages are to be sent between any points east of the Rocky Mountains for 25 cents, and press reports are only to cost 10 cents per hundred words. The only way that the company can prove to the public that what it promises is possible is to do it. Nothing short of that will be conclusive. In the meantime we fear that those who read the pamphlet issued by the company will conclude either that it is the work of an enthusiast or that the company is started for stock jobbing purposes. Below we give extracts from the pamphlet, which may be interesting to the readers of THE OPERATOR:

The "Rapid" Telegraph Company possesses novel and very important characteristics, and differs, radically, from all previous organizations for telegraph purposes in this country. It will use an entirely new system of machine telegraphing, strongly patented here and in Europe, and presenting advantages as to speed, accuracy, reliability, and simplicity over all other known telegraph systems; greater, by comparison, than is possessed by the sewing machine over hand sewing. It will issue no "watered" or otherwise "inflated" stock, and

will build, at the lowest cash cost, the best possible telegraph lines. It will use only cast steel and copper-plated conducting telegraph wires—steel having three-fold greater tensile strength, and deposited copper, chemically pure, having seven-fold greater electrical conductivity than iron. The compound steel and copper wire used by the American "Rapid" Telegraph Company offers not more than 5 or 6 ohms of resistance per mile, when jointed with their patent joint and strung upon the poles, in place of 18 to 25 ohms of resistance by the iron wires in general use by other telegraph companies, which will stand a strain of only 700 to 1,000 pounds. The breaking strain of the steel and copper wire will be 3,000 pounds, including joints, which offer no electrical resistance, but add to, rather than reduce, the conductivity or the tensile strength. It will not require, between New York and other cities of the Union, more than three of these low-resistance wires to transmit and receive a volume of telegraphing ten-fold greater than is now transmitted over all the wires of the Western Union and Atlantic and Pacific Telegraph Companies by the "Morse" or any other form of hand-key telegraphing now in use.

The company controls, under strong American and European patents:

1. "Electro-Mechanical Telegraphy," an entirely new and extraordinary system of machine telegraphing, which has a reliable transmitting capacity of one thousand words, or more, per minute, over one wire, in telegraph circuits of 500 to 1,000 miles in length.

2. "Real Duplex Telegraphy," by which one wire is made precisely as effective as, and even more convenient than, two wires can be in the hands of expert "Morse" operators. This system is divested of all the complications of other "duplex" devices, and admits of sending and receiving messages, simultaneously, from either end of a wire, and to or from any intermediate or way offices, which cannot be done by any other known "duplex" or "quadruplex" system. The "real duplex" system is especially well adapted to railroad telegraphing, and for use on all way lines where the volume of business does not require a faster system of telegraphing than the "Morse," but yet where the exigencies of the business requires the use, substantially, of two wires.

3. Multiplex Telegraphy is, substantially, the reliable transmission from each end of a single wire, in any circuit of 1,000 miles, of four messages—from both ends—simultaneously—thus practically multiplying the quadruplex system, but by vastly more simple devices.

4. "Metrical Telegraphy" is a new system for working long ocean cables and underground telegraph lines, whereby the wires are discharged of all inductive and static electricity, and placed in a condition to carry electric impulses with twenty-fold greater rapidity than heretofore, and will increase the hourly transmission over any good Atlantic cable from 1,000 words to, probably, 10,000 or more words per hour. By the "Metrical system," every possible electrical signal indicates, reliably, a Roman letter in print—thus saving, of electric signals, at least three-fourths, as compared with any other known system of cable telegraphing.

5. Line and Page Printing Telegraph Machine.—This is a very ingenious and valuable invention, requiring but one battery to operate at both ends of a wire, thereby (with other important improvements) placing the printing telegraph far above every other known device for communicating intelligence, where high speed is not necessary, and where some convenient method of recording is desirable or necessary, as it is in every business communication. The recording is done, very neatly, in lines and pages, book form, which makes it incomparably superior to all other machines for reporting stocks; for private line purposes and intercommunicating uses, a record, for convenient reference, being a very great, if not a necessary, desideratum among business men.

6. Electric Generating Machine.—By means of this new invention every telegraph office may, at a trifling expense, be fitted as a main office, and may send all messages, within a circuit of 1,000 or 1,500 miles, direct to destination. This is an aid to the new system of "Rapid" or machine telegraphing, of incalculable value and importance, as it does away with all necessity for "relaying" or "re-perforating" messages, and saves, in battery expenses, many thousands of dollars per month. The new principles involved in this Mechanical Electric Generator admit of the instant generation of all the "quantity" and all the "intensity" of current required for circuits of 1,000 or 1,500 miles, or less,

and, practically, more than doubles the value of the "Rapid" system of machine telegraphing.

7. Speaking Telephone.—This telephone is constructed on novel principles, and repeats language, with great distinctness, in ordinary Morse telegraph circuits of 300 miles.

8. Telegraphic Devices and Patents.—Besides the above-named seven very valuable inventions, and also exclusive of several very broad patents, covering the manufacture of "compound" steel and copper wire, whereby telegraph wires may be had of any desired electrical conductivity and tensile strength combined, the American "Rapid" Telegraph Company control a large number of other valuable devices and patents connected with telegraphy, and embracing, really, about all the inventions of practical merit in this branch of science during the past quarter of a century; and as it is, and will continue to be, a leading feature of the company's organization to extend the most liberal encouragement to all inventors who may invent original devices of decided merit, or who may make valuable improvements on existing devices, it is not doubted that the company will keep well in advance in the control of valuable telegraph improvements.

9. The American "Rapid" Telegraph Company can and will, by its marvelous speed in telegraphing, collect, daily and hourly, from all parts of this country and Europe, the fullest and most reliable details of all news of public interest, and display the same at the company's news bureaus, connected with its New York, Chicago, and other chief offices. The special reporters of the press of the country will have free access to these news bureaus, and will be permitted to compile for the journals they may represent such portions of the general news of the world, including verbatim reports of the daily proceedings of both Houses of Congress, as they may desire; and the same will be telegraphed direct to the editors concerned at a speed of at least one thousand words per minute, and at a cost not exceeding one dollar per one thousand words—the actual cost of telegraphing by this system, complete, 1,000 words, between any two available points—say New York and Chicago, or Washington and Boston—not exceeding about twenty cents.

10. This company's system of machine telegraphing is so simple and easily understood that the preparation or composing of ordinary commercial messages may be accomplished, accurately and reliably, after one day's teaching, by the junior clerks of merchants' and bankers' offices, editors, news reporters, compositors, etc.; and the recorded telegraph characters can, after a few hours of practice, be translated or read by any person who has even a common school education, just as well, as rapidly, and as reliably, as can be done by the most thoroughly educated Morse telegrapher; and patrons of the "Rapid" Telegraph Company who may choose to have this trifling amount of work performed by their own clerks will save time, assure extra accuracy, and entitle themselves to considerable rebates from the established tariffs.

11. The chief practical employees of the American "Rapid" Telegraph Company will, from the start, as far as possible, be identified as shareholders in its business prosperity—and to this end the operatives will be selected with the utmost care as to character, intelligence, and ability. The company is so constituted as to admit of an ultimate large holding of its stock, and an influential control of its management, by its practical operatives—the promoters of the company, fully appreciating the importance of having the practical manipulators of its wires and machinery in the hands of those who will feel both a pecuniary and a friendly interest in its prosperity, in place of the open or smothered hostility or indifference which is known to have grown up, very generally, under the arbitrary and "grinding" management of other telegraph companies.

King Western Union.

A trenchant modern writer has said: "The history of a country is the biography of its kings." From our Scandinavian ancestors have come down to us only disjointed fragments of the history, true or false, of Odin and Thor, heroes in their own times, no doubt, and gods ever afterward. Not more is this true of ancient history and tradition than of modern. What is French history but the biographies of her Louises, her Charleses, her Napoleons? The people do not come to the surface at all, except as they have served as pawns on the political chess-board.

One wonders, as he reads, how whole nations of people could permit themselves to be trodden into the dust under the heel of one man, iron though it were. One marvels how it could ever be; how it can be now is still more a mystery. That a whole, great, powerful people can labor and starve, denying themselves the very necessities of life, living on refuse, in hovels, in squalor and poverty, want and disease, having everything they earn and save wrung from them, little by little, but systematically and completely at last, to feed artificial wants; how the slaving, starving millions of Europe can tolerate, in this nineteenth century, their bondage to the chattering, grinning idiots who sit moping and mowing on their thrones, teaching, apparently, no lesson so plainly as that the most contemptible creature of all the earth is this creature of their own wallowing ignorance—the King! How all this can be, I say, passes human understanding. "The people," however, not only do not seem to be restive under their thralldom, but appear to so love their groveling servitude as to swarm by millions and die by thousands at each other's throats for the dear "Old Kaiser," who is building anew his throne on the leveled heads of his "loving subjects," cementing its adamant mass with their very blood.

I say we wonder at these things as we see them in Europe, and well we may. But have we any such thing here? Shut up from our introspective view grins there no skeleton from the recesses of our own closet? We concern ourselves mightily about our neighbors' affairs, sometimes when our own sadly need attention. Much more dangerous is the foe who belongs to our own household than the enemy who comes from abroad.

Monopolies are always dangerous. They cannot exist except as an infringement upon the rights of the outside public—the welfare of the business of the country outside the corporation doors.

The British East India Company was at one time a terror to the State of England. No one has forgotten in what holy horror this Nation rolled outward the whites of its eyes and raised its hands toward that quarter of the azure vault which was thought to be in the direction of Heaven when the Credit Mobilier was unearthed. Railroad monopolies are exhibiting their powers in a thousand ways every day. Railroad lobbying is a fashion, occurring with the same frequency and regularity as do the meeting of our Legislatures and the sessions of Congress.

Are telegraphic monopolies any less dangerous? Are they an exception to the rule? Do they, any less than others, fatten at the expense of a bleeding public? Silently, like the vampire, they suck the blood of their victims, fanning meanwhile with their softly-playing wings the unconscious dreamer with the alluring airs of "dividends" and "cheap rates." Will it be an impossibility for the Western Union Company to put up its rates, I wonder, after it has ceased to be a matter of self-interest to put them down? When have they been reduced in times past? When a rival company was to be crushed. When the Western Union Company shall own every line in the United States, and shall desire to put up the rates, who, I ask, is to say nay?

With 206,203 miles of line already under its control, and a net annual profit of \$3,551,542.70 accruing to its stockholders, some sort of an idea—a very indefinite one, for the human mind cannot grasp millions—may be formed of the stupendous proportions to which that gigantic corporation has already grown. How fare the operators who make all this possible, and what rights have they?—what benefits do they reap from this unexampled prosperity, and what public recognition is made by the company of their part in this rise?—are questions of some weight, or ought to be, to the operators. What W. U. operator dares to lift his shackled hand in his own defense, or even in pleading for manly fairness? What one but knows that the collar is on his neck, and the iron in his soul; that he is a thrall, property, part and parcel of the wealth of the W. U. Co.? What one but knows that his bread and butter are wrapped up in the napkin of his silence? No espionage is so lynx-eyed as that which looks along a wire; no punishment so swift as that which speeds upon the lightning's wing; no stroke so sure and deadly as the levin-bolt's descent.

SUMAC.

A LADY desired to communicate by telegraph to her husband in the city the size of an illuminated text which she had promised for the Sunday school room. When the order reached him it read, "Unto us a child is born, nine feet long by two feet wide." —Boston Herald.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY.

W. J. JOHNSTON, - - - Publisher

April 15th, 1879.

A "South Jersey Telegraph Company" is being organized at Camden, N. J.

WESTERN UNION stock is quoted at 106, A. & P. at 37, and A. D. T. at 53.

LORD CHILMSFORD, in command of the British forces at Zululand, has asked to be supplied with a field telegraph and electric lights, and the men and materials have been sent him.

A BRITISH professor estimates that bees, to collect a pound of honey from red clover heads, would have to make 2,500,000 visits; almost as many as an operator has to make nowadays to his Superintendent to get an increase of salary.

By reference to the advertisement of Messrs. L. G. Tillotson & Co., in this issue, it will be seen that the firm will remove May 1st to Nos. 5 and 7 Dey Street. The business of the firm has increased to such an extent that they find the building they formerly occupied too small.

THE Western Union Telegraph Company has laid pneumatic tubes to connect its main office with the *Herald*, *Times*, *Tribune*, *World*, *Sun*, and *Staats Zeitung* newspaper offices. This will insure a more prompt delivery of dispatches at these offices, and be cheaper for the company.

Two boys were fined \$45, or one month's imprisonment, recently, for interrupting telegraphic communication between Widnes and Liverpool, England, by cutting the wire with a piece of tin. This recreation is not so common among boys as it once was, and the above fine will probably make it less popular than ever, at least with these boys.

THE opinion of an eminent physician of this city in regard to writer's cramp and telegrapher's paralysis, in another column of this issue, will prove interesting to such of our readers as are troubled or threatened with either. It would be well to bear in mind, however, that the paper was intended more particularly for medical men, and that where treatment is necessary, it would, at least in some cases, be advisable to consult a physician.

THE Western Union Executive Committee sent a check for \$250 to Mr. E. L. Smith, manager at Topeka, Kansas, in recognition of his "devotion and heroism, in submitting to imprisonment" for a week rather than deliver up a number of private dispatches to a Legislative Committee; and there are probably not less than 19,836 telegraphers in these United States who would be perfectly willing—nay, anxious—to make a similar "pecuniary and personal sacrifice" for two hundred and fifty dollars.

The Telegraph Service and Telegraphic Employes.

The official *Journal* of March 1 contains an editorial on the above subject, in which we find many items of real news. For instance, it says that "there was a disinclination on the part of telegraph managers to reduce generally the compensation of their employes, and such reduction was postponed until almost every other description of labor had suffered a decline from war prices."

That was very kind of telegraph managers; very noble, very magnanimous; but, unfortunately, their disinclination to reduce salaries was not half so strong as their present disinclination to pay anything but the most pronounced starvation wages.

"Only by careful and economical management," it says further, "have the telegraphs been maintained upon a paying basis under the financial condition and the unavoidable decrease in the rates for telegraphic service. It cannot be properly claimed that the capital invested in telegraphy has been excessively compensated." The Western Union Telegraph Company is the last corporation in the country that need complain of hard times and an unremunerative business. It has never done so much business, made so much money, or been in every way so good an investment as it is to-day, and as it has been for some time. It is an insult to the intelligence of American telegraphers to tell them that "careful and economical management" was necessary to maintain the business of the Western Union on a paying basis, but even more so to claim that the capital invested is not excessively compensated. The entire property of the company could easily be duplicated for one-fourth—perhaps for one-sixth—the amount of the present capital. Thus six per cent per annum is paid in dividends on about \$30,000,000 of watered, superfluous stock; and the company wants us to believe that the capital invested is not excessively compensated!

"The interests of both classes," the *Journal* says again, meaning employers and employes, "are the same, and unless the business is prosperous and remunerative, employes must expect to share in the consequent disadvantages." Oh! of course! If the business doesn't pay as well as formerly, the deficiency must come out of the salaries of the poor employes. The business is better and more remunerative now than it ever has been in the past, while the price of stock is higher, but in what respect does this help the employes? How manifestly unfair, then, that, in the event of a less prosperous business, employes should "share in the consequent disadvantages," when they do not share in the present and past prosperity!

But the following is, perhaps, as "cool" as anything contained in this wonderful editorial: "The more capable, efficient, and attentive to their duties are the employes, the more valuable will be their services, and the greater the ability of their employers to compensate them." Oh! the *ability* has always been ample enough; it is the *willingness* that is needed. We have a letter before us that bears somewhat on this point, or at least demonstrates how well the company keeps its promises. When the so-called grading was forced upon the already under-paid employes, it was promised that when in future a vacancy should occur, it would be filled by putting a low-priced man at the foot of the ladder, and dividing the

difference between his salary and that of his predecessor among a number of the poorer paid operators, to the amount of five dollars each. That was the company's *promise*; this is what it has done in one office. Have any others fared better?

"Of course we have our general grievances. Nearly every man in this office was reduced from \$5 to \$15. Civil Service, hurrah! Two months after its adoption a \$60 man resigned. With much hanging out of flags and braying of trumpets a \$55 man was advanced to \$60, and a \$50 to \$55. 'My policy,' a sample of the good times coming come! A few months later an \$85 man resigned. Consternation seized the standard bearers. What! advance seven men \$5 each? This was an emergency. Result: a vacancy—the abolishment of a 'useless' \$80 position—a \$50 man can do just as good work! We have, since that time, one more \$80 position vacant. This, too, in the natural order of things, will be abolished. 'Great is Diana of the Ephesians!' likewise 'my policy.'"

Another gentleman, a first-class operator and old-timer, writing to us says: "I have some idea of seeking 'green fields and pastures new,' being sure of a good job on a flourishing railroad in Texas. This system of grading, reduction, and other so-called economical schemes are fast driving us out of the Western Union service." So that the Western Union in reducing the salaries of its employes is driving the good operators either out of the business or into the service of railroads. The company will probably find, perhaps when it is too late, the mistake it is making.

The *Journal* winds up the article by intimating that if any employé is dissatisfied with his present position, the company can get plenty of others to take his place. Unfortunately it can, just now, and unfortunately, too, it has the matter of employment and of salaries almost entirely in its own hands. But time works wonders, and it is not improbable that within the lifetime of most of us a great change will come over the affairs of this now so strong and seemingly secure, but arrogant and unscrupulous monopoly.

Cable Communication with Cape Colony.

The recent reverse to the British arms in Zululand has created a strong public movement in England in favor of a cable to connect the South African colonies with the mother-country. Immediately after the above disaster, a deputation, consisting of several members of Parliament and other distinguished persons, drew the attention of the government to the necessity for the immediate establishment of cable communication with Natal. A cable to the Cape has several times before been suggested, but does not seem to have hitherto met with much encouragement, either from the government or the public. Now, however, the government announced to the deputation that several definite proposals for a cable were at that moment under consideration by the Treasury and Post-Office authorities. It had been stated that the cable might be laid by next October; but the deputation pointed out that 1,400 miles of cable already made for the Australian duplicate cable could be purchased at once, and thus the line be completed in a shorter time.

This seems to have been the course adopted, as a cable dispatch from London says that the steamer Kangaroo, with part of the cable on board, has left the Thames for Natal *via* the Suez Canal.

The cable will be laid from Natal, along the

eastern coast of Southern Africa, to Aden. At Aden it will connect with the Eastern Telegraph Company's duplicate cable from Bombay *via* the Red and Mediterranean seas. There was a suggestion to lay the cable along the west coast of Africa to St. Vincent, there to connect with the Brazilian Submarine Company's line running from Pernambuco to Lisbon; but, though possessing some advantages over the east coast route, the distance in this case would be greater, and the time occupied in laying the cable necessarily longer; and as the latter was a matter of much importance, the east coast route was adopted. It is thought that the Natal and Zanzibar section of the new cable will be open for business in July. This will bring South Africa within a week's communication with England. The remainder of the line, it is believed, will be completed before the end of the present year. It is not improbable that after the completion of the present cable, another will be laid along the west coast, to connect the west coast possessions with England.

Edison's Electric Light.

Mr. Edison emphatically denies the statements made by the New York correspondent of the London *Times* to the effect that the Edison Electric Light is a failure. Referring to the matter in conversation with a reporter of the New York *Sun*, Mr. Edison says that the light is a complete success. "If lucky," he says, "we shall have all the houses in Menlo Park lit up in six weeks. The subdivision of the light is perfect. I have had more trouble with the dynamometer for the measurement of the horse power for each generator than I had with the light itself.

The delay in bringing the light before the public has been the want of a perfect generator of electricity, Mr. Edison was satisfied that he could make a machine that would produce double the amount of a Wallace or Gramme machine to the horse power. He has made two machines, and has met with great success. He not only gets more electricity to the horse power, but the current is more applicable to his lamp. So far, the inventor says, he has spent about \$30,000 in experiments. He positively asserts that the light is an assured success, and that it can be made three times cheaper than gas. "I mean," he says, "that I can get the same amount of light for three times less money, actual cost to both parties."

The attempt to prevent his obtaining a patent in England failed. He is now getting a new set of patents in all foreign countries. He thinks that inside of two months, if nothing interferes, he will be able to make the whole thing public. He can now get a light equal to thirty candles from a lamp that would at first give a light of only two and a half candles.

"We are safe on our lamps," he says. "The one we propose to use will not melt until it gives out a light equal to three gas jets. We shall not force more than one gas jet from each lamp, using its further capacity as a margin in case of any disarrangement. The latest improvements have rendered the regulator of secondary importance, for it would require extra engines and boilers at the electric stations to produce a force of electricity strong enough to melt the lamps. The only use left for the regulator is to turn the lamp up and down.

Mr. Edison says that he shall burn 500 lights at Menlo Park, keeping them aglow night and

day, until the stockholders are satisfied. It has been supposed that the lamps themselves would be very expensive. They are simply a small coil of platinum wire placed in a glass bulb. Mr. Edison says that they will cost—bulb, platinum, and all—not more than a dollar and a half apiece. He is making his own bulbs, having picked up the art from a perambulating glass blower.

A scientific gentleman has tested the colors of the electric light. He found the tints the same as the tints of sunlight. Gas gives no tints.

Sixteen electric lights are now in use in Mr. Edison's machine shop. The electricity has been furnished by a small Gramme machine, but the new Edison generator will be substituted in a day or two. The glass bulbs are no larger than a rusty coat apple. A light equal to that of three gas jets fairly warms them, and that is all. There is scarcely any perceptible heat.

ACCORDING to a cable dispatch from London, the *Observer* of that city says that advices from Paris state that M. Pouyer-Quertier's Atlantic Cable Company will, on April 15th, open books for subscriptions for 40,000 shares of 500 francs (\$98) each, at 2½ premium. As the nominal capital for the company provides for 82,000 shares, the present allotment apparently restricts the scheme to a single cable from Brest to New York instead of two, as originally intended. The London *Daily News*, in its financial article, subsequently says: "The whole capital of the Pouyer-Quertier Cable Co., amounting to 42,000,000 francs (\$8,106,000) has been subscribed, and one-quarter thereof paid up. Contractors, engineers, and officials have received installments on account of cable manufacture, salaries, etc. These facts should be made known to the shareholders of the Anglo-American Cable Co. at their meeting to-day." At the meeting thus referred to of the shareholders of the Anglo-American Cable Company, it was unanimously agreed to empower the directors to carry out the plan heretofore mentioned in THE OPERATOR for the organization of a French cable company in the interest of the Anglo-American Company. The chairman of the meeting stated that the directors still hoped that such action might prevent the completion of the Pouyer-Quertier scheme.

TELEGRAPHY is to be revolutionized once more. Professor Loomis thinks it possible to send messages without wires, by means of aerial currents; but a Professor Quinton comes forward with the startling suggestion, that we may, after awhile, be also able to dispense even with instruments. The Professor declares his belief that at some future age of the world man will have attained such a complete mastery over the forces of nature as to be able to communicate with his fellows over long distances and from country to country merely by the exercise of his will power.

THE National Bell Telephone Co., of Boston, will shortly commence the publication of *The Telephonic Journal*. The issue of the first number will be delayed for the present owing to the illness of Mr. Francis Blake, Jr., the editor. "Our desire," the company says, "to have the first number fully up to the standard set, is our excuse for delaying its issue until either Mr. Blake's recovery or other arrangements will permit it." The Boston post-office address of the company has been changed from 3,466 to 5,345.

Themes for the Thoughtful.

Lingering labors come to naught.

Dull not device by coldness and delay.

Arrogance is the abstraction of wisdom.

Early and provident fear is the mother of safety.

A cheerful face is nearly as good for an invalid as healthy weather.

Idleness is emptiness; the tree in which sap is stagnant remains fruitless.

To have ideas is to gather flowers. To think is to weave them into garlands.

Hope! Fortune's cheating lottery, when for one prize a hundred blanks there be!

Never think that God's delays are God's denials. Hold on; hold fast; hold out. Patience is genius.

It is a curious fact that on the track of knavery a misplaced switch will be found somewhere, and it is sure to wreck the train.

If you do not want to have a wrong deed known, there is one rule, and only one, which leads to perfect success. Don't do it.

For one word a man is often deemed to be wise, and for one word he is often deemed to be foolish. We ought to be careful, indeed, what we say.

Many are ambitious of saying grand things; that is, of being grandiloquent. Eloquence is speaking out—a quality few esteem and fewer aim at.

Perseverance merits neither blame nor praise; it is only the duration of our inclinations and sentiments, which we can neither create nor extinguish.

The most positive men are the most credulous, since they most believe themselves, and advise most with their falsest flatterer and their worst enemy, their own self-love.

Tenderness is the genius of simple minds. If passion knows no obstacles, tenderness knows no bounds. Passion is the attribute of a soul which no longer controls itself; tenderness that of a heart which no longer belongs to itself.

Things are great or small according to the end of the microscope through which you look. Some people manage to look at their troubles through the upper end, and so incontinently magnify them, and at their good fortune through the lower end, and so minimize them.

WHY?

Strength for to-day is all that we need,

As there never will be a to-morrow;

For to-morrow will prove but another to-day,

With its measure of joy and sorrow.

Then why forecast the trial of life

With such sad and grave persistence,

And watch and wait for a crowd of ills,

That as yet have no existence?

You are more sure of success in the end if you regard yourself as a man of ordinary talent, with plenty of hard work before you, than if you think yourself a man of genius and spend too much time in watching your hair grow long, that you may convince people that you are not like other folk.

The most necessary talent of a man of conversation is good judgment. He that has this in perfection is master of his companion, without letting him see it, and has the same advantage over men of any other qualifications whatsoever as one that can see would have over a blind man of ten times his strength.

Life is itself neither good nor evil; it is the scene of good or evil, as you make it; and if you have lived a day you have seen all; one day is equal and like to all other days; there is no other light, no other shade; this very sun, this moon, these very stars, this very order and revolution of things, is the same your ancestors enjoyed, and that shall also entertain your posterity.

After 5.30 P. M.

The day force of 197 had gathered on the lower floor to await the abatement of a heavy rain storm that had commenced as they were being relieved. Standing near the voucher window was a group composed of some of the finest telegraphers in the country, who, to "while the time away," were storytelling.

Morris Brick, who had previously been employed in Binghampton office, told of a curious bull made between that place and New York. "I had," said Morris, "a regular customer, who wrote a terrible fist, and his messages were continually bulled. The last message I sent for him contained but one word, and was insured through. The word was 'no,' and so I transmitted it, and so it was repeated, but upon delivering it to the firm the message read 'yes.' Queer, wasn't it? And they didn't work quads those days, either. Billy Lewis received the message. Billy's good!" And Morris complacently stroked his long, black whiskers.

Baldy remarked that he agreed with the renowned "no pay Chamberlin" in thinking Morris "too old a man to give out stiffs," which idea Chamberlin had *gratuitously* communicated to Brick. "Chamberlin was decidedly light, but it was rather rough to burn his ulster," Gib Merrill said. Jake Tallman officiated at the burning. Gus Coleman denied that, but said he knew the committee who had the matter in charge.

"I saw something laughable in the lunch-room to-day," said Johnny McLaren. "Some one dropped a blackberry on the floor, and mine host, with an eye to the mighty dollar, picked up this fraction of a mill's worth, carefully dusted it with a napkin, and put it on an outgoing dish of berries that Jack Stevenson ordered. If economy is wealth, as the old adage affirms, that janitor will be a Vanderbilt before he dies."

"Or a Twombly," observed Hickey (sotto voice). "I was reading a good thing about the Jews the other day," remarked Dad Bennett. "It was something about a dispute between Owen Fawcett, the actor, and an Israelite, and it appears that Fawcett got worsted, but he said a funny thing: 'I'll get even with you; when you're dead I'll go pound your grave with a ham.'" A roar of laughter followed this.

"By the way," said John Moreland, "I read in the *Clipper* a short time ago a funny classification of the names of actors, and it occurred to me that some of those in our own profession are quite as ridiculous, so I have jotted down a few," and from his note book he rattled off:

Seasons—Billy Sommers, Elias Winter, E. H. Spring.

Watery—John Eddy, Charley Brooks, Harry Wells, C. G. Pond.

Ornithological—Bob Martin, Geo. Hawk, John Brant, Frank Swan.

Horticultural—R. G. Garland, John Plant, E. S. Rose, Billy Thorne.

Gunnery—Harry Schott, P. F. Cannon, Lewis Powder.

Edifices—Tracy Barnes, G. A. Temple, Supt. Booth.

Time—L. C. Day, Geo. Weeks, Jim Knight.

Colors—Billy Black, Dennis Brown, Chas. Francis Gray, Geo. A. Green, Wesley Reddish.

Building Material—Morris Brick, Billy Stone, Billy Wood.

On the Run—Ned Chase, Robert Hunt, R. H. Hurridown.

Nationalities—Eugene French, Bob English, Eddy Welsh.

The Church—Tom Bishop, Ralph Pope, Theo. Parsons.

In the House—Jack Chambers, Charley Hall, Chief Sink.

Repairs—Charley Patch, Peter Mending.

Old-Time Minstrel—Joe Christy, Frank Burton.

Funny Biz—H. Jolly, Arthur Merriam, G. W. Clowin, C. C. Judy.

Insects—Charley Miller, August Bee, Calvert Fly.

In Power—Geo. F. King, O. L. Barron, J. W. Bey.

Charley Laird, Tony Burgess.

Fruit—Fried Baldwin, E. T. Barberie, Harry Cherry, Wash. Apricot.

The Speaker of the House—Jim Randall.

Mineralogical—Nelse Silvers, Jas. P. Golden, W. R. Cole.

Kitchen Furniture—E. M. Ladle, Gus Pann, Billy Kettles.

In Charge—G. B. Boss, C. A. Chief, John G. Manager.

Measurement—W. Peck, G. R. Goodweight, Billy Quart.

Finale—Will Dunn, Jack Plenty, Ernest Fullstop. This provoked a hearty laugh. Billy Blanchard commenced to tell one of his inimitable jokes, but Miss Salisbury and Miss Monahan passing down Dey Street to catch an elevated train, called attention to the fact that the storm was over, and this chattering group quickly scattered through the great city.

A Defence of R. M. Hughes.

The article in your last issue signed Logan, in which he endeavors to belittle R. M. Hughes, operator, is in every respect false; and, as an admirer of Hughes, professionally and otherwise, I wish to place him right through your columns. He is a fine moral man of twenty-five years, free from drink, tobacco, and other vices which tend to lower instead of elevate, and is, perhaps, one of the best read men of his age in standard works in this or in any other city. The following is his history in brief. In early youth his mother died; shortly afterward his father married again, and R. M. not liking his stepmother, entered a printing office, but finding telegraphing more desirable, studied under W. F. Black, at Mansfield, Pa., and took that office at the early age of fourteen, at a salary of \$40 a month. At sixteen he received \$60 a month at Forrest, O. Two years later he left for the U. P. R. R., where he received \$125 a month, filling three different positions, operator, agent's clerk, and instructor. At the request of his father he came home, and remained in Pittsburgh, studying. In 1875 he formed the acquaintance of the Right Hon. A. P. De Carvalho Berge, Envoy Extraordinary and Minister Plenipotentiary of Brazil, S. A., at Washington, and by his literary ability and penmanship soon won for himself the personal interest of that gentleman. In February, 1878, Mr. Berge entertained Hughes at the Wamsley House, Washington, and in April of the same year gave him letters to the Secretary of State of the Brazilian Empire, where a position awaits him at his pleasure. He still holds the aforesaid letter. During 1875-76 Hughes was private secretary to Hon. Horace Scott, of Louisville, Ky., but finding his health much impaired by loss of sleep, over work and study at night after doing a hard day's work, he resigned. Colonel Scott speaks of him as being the best man he ever had in that position. He is an expert in anything he has ever studied. During his time as operator and secretary I believe he has never turned away any operator or any person in distress who applied for aid, and operators have ever received passes from him without having letters. Louisville operators can testify to this. His present references are Hon. R. W. Thompson, Secretary U. S. Navy, Washington, D. C., Gen. Jas. A. Ekin, Deputy Q. M. General U. S. Army, Louisville, Ky. Colonel Thornton, Assistant Postmaster, Cincinnati. Hon. Thomas Ambrose, clerk U. S. courts, Cincinnati, and many others of note. The lamented Horace Greeley was a father to him, and his Grace the venerable Archbishop J. B. Purcell, of this city, has a personal interest in his welfare. Hughes came to Cincinnati purposely to study the Greek and Latin languages, and to work on his sonnets, one of which I send you for inspection. The contest was to have been for the benefit of the Electrical Society of the Ohio valley, of which he is a member. As for his having failed, it is false. He never was tested, nor would he allow himself to be. He is modest in giving his name to the newspapers, and will answer nothing unless his character and habits are assailed. He has no superior as a penman, and I have no knowledge of his equal. He is held in highest respect by Chiefs Johnston, Newton, Mattoon, and Gould, and operators in general of Cincinnati force, who appreciate his good qualities. Last summer Hughes was among the very first to offer his services to the Western Union Telegraph Company to go to Memphis when the scourge was raging. He says he will ever help the Western Union Company at any time when called upon, but does not want to work at the business regularly on account of confinement, which he cannot stand. He is gifted with more than ordinary talent, and the envious Logan only wastes time in trying to injure him. I, for one, have known him since childhood, and will risk my life and fortune on him as being purely honorable, and able to do credit to his name, profession, and the city of Pittsburgh. And that he may be known accordingly, I wish to have this published as the other side of the story.

WM. CREGG.

CINCINNATI, March 25, 1879.

Richmond, Va., Notes.

Aside from the ripple of excitement caused by the rivalry existing between the two telephone exchanges in this city, things telegraphically in and about Richmond are very quiet. When it became generally understood that telephone exchanges had become fixed institutions in Northern cities, the feasibility of introducing one in Richmond was made the subject of discussion by the officers of the Automatic Signal Company. While the subject was still under favorable consideration, Messrs. Orms, Tracy and another gentleman of the Chicago Exchange, arrived in town, and entered into negotiations with the business public for the introduction of a Bell telephone exchange. They obtained the requisite number of subscribers and in due time the office was established. In the meantime the Automatic Company were actively engaged in perfecting their scheme, and the result is that we have two exchanges, the Bell and the Edison. Of the former I cannot speak, further than to say that they are established and still running their wires. Of the latter I can say that they are rapidly branching out in all directions, and their applicants far exceed their facilities for extending their lines. They are using Edison's latest achievement in the telephonic line, and, having tested it thoroughly, I can truly say that it exceeds anything yet introduced in this vicinity, and I have no doubt that in the course of time they will become the head centre for that sort of business.

The Automatic Signal Company of this city (in connection with which the Edison Exchange is being run) has been established about four years, and during that time has been very successful. The company is conducted upon a plan similar to the American District, although the instruments used are entirely different. The messenger service, however, is the same, also the police and fire alarm, with two or three additional calls to the Automatic, which have proved to be an admirable acquisition.

Mr. George Gaines, clerk and operator at the Tredegar Iron Works, in this city, seems to be the only troubled telegrapher among us. George bought a cow—a real blooded cow—sleek, fat and handsome, and out of fly season her tail trailed on the ground. But, alas! it transpired that a bevy of boys got hold of that unsuspecting cow's tail, and when the animal parted from them she was minus two and a half feet of her fly extermiator. This event grieves George, and no doubt aggravates the cow, and together they have our sympathy.

By the way, speaking of the Tredegar Works, it may not be generally understood that it is one of the largest iron manufacturing establishments in the U. S. At the time of the financial crisis in 1873 they were working a force of 1,500 men, since which time not over 300 to 400 have been employed. They have a capacity of turning out complete from seven to eight freight cars, six hundred to seven hundred kegs of spikes, one hundred and twenty-five car-wheels, large quantities of fish plates, chairs, bar iron, etc., for railroads in a single day. They have also introduced the manufacture of horse-shoes with great success. Gen. J. R. Anderson is at the head of the concern, and our before-mentioned friend Gaines is operator and clerk for him, having a branch office for their exclusive business.

There has been no change in the force of the Richmond office since January, 1878, nor in the whole district for that matter. Our superintendent is not of the sort who delights in discharging a man for the sake of hiring another, and only when it is really a necessity does a change take place, but when it does you can set it down that it is for keeps. ***

Howard Holtzclaw's Murderer.

On the morning of the 7th of February last, as already reported at the time in THE OPERATOR, the body of Howard Holtzclaw, agent and operator for the Baltimore & Ohio Railroad Company at Warrenton Junction, Va., was found near his lodgings riddled with buckshot. His pockets had been rifled of their contents, including the keys to his room, which was entered by the assassin and robbed of all valuables. Holtzclaw boarded with Mr. Shumate, whose residence is situated near the railroad, about a quarter of a mile up from the station, and near the scene of the tragedy.

The unfortunate young man was in the habit of walking up the track to a point nearest his home, crossing the fence and taking a short cut. On the night of the 6th of February while in the act of crossing the fence, or just prior to it, he was shot dead with a double-barrel shot-gun in the hands of one John Williams.

Mr. Holtzclaw enjoyed the fullest confidence of the company for which he worked, and also that of the fraternity and the public generally, who were much incensed at the tragedy. Several arrests were made, including the right party, who has since made a full confession. When this confession was made known the indignation of the citizens knew no bounds, and preparations were being made to forcibly take the prisoner out and hang him without judge or jury, and but for the timely intervention of the father of the deceased, this would have been carried into effect. The correspondent of the *Richmond State* says:

"The poor old man who was so cruelly bereft of a son, his pride and joy, was among the first to rebuke the fiery spirits who, in the flush of their indignation at having their friend and companion struck down so brutally, were preparing to storm the county jail and punish summarily the creature who deliberately sought the death of young Holtzclaw."

The trial of Williams began on Tuesday, April 8th, and concluded on the following day. The jury, without leaving their seats, agreed upon their verdict, and Williams will be hanged in July. ***

Echoes from 197, and City Items.

Messrs. Cushing, Davis, Durivan and Bradt have been transferred from day to night service at increased salaries.

The Misses Erickson, Johnson, Martin, Lederer, and Jarvis have been put upon eastern wires. There are now nine female operators on the east.

The men at 575 Broadway office are well supplied in the way of wardrobes. Each one of them has space enough allotted to him to hang up a good healthy duster.

There has been a rumor recently started to the effect that the talented young vice-president, has, in the excess of his economical zeal, proposed to the Executive Committee to give his valuable services in future without compensation. Some maliciously minded persons say that that is about what they are worth.

The Western Union Athletic Club's spring meeting takes place on April 17, at the Manhattan grounds, corner of 56th Street and Eighth Avenue. It promises to be a very "tony" affair. Five hundred invitations have been issued, and the event is looked forward to with extraordinary interest by the craft.

Eastward the star of woman takes its way, and the men are following Horace Greeley's advice; "Go West, young man, go West." One after another of the braves have departed. Kearney, Jo. Wood, Pattison and Miles O'Reilly have whooped it up for the last time, and are lost in the forest. A few old timers only are left. Five more lady operators have appeared on the eastern circuits, and there are visions of more coming.

When the duplex was first introduced in 575 Broadway office some time ago, there was a little lady at one of the other sides, who had then made her first acquaintance with that instrument. She used a neat little form—of speech I mean—that caused a general breaking out into smiles by the other parties composing the quartette. She put it *naively* to her companion in this way: "Please tell him to stop sending on the other side." And he did, instantler.

The name of the firm was H. E. Taylor & Co., and they were in the coffin business. In an unguarded moment he put it down "petatour." Shortly afterward explanations were in order, when the party could not be found. She said she did not know who was to blame, but thought he had been "undertaking," too. He felt too humble to make any reply, so he simply bowed his head in grief, and sobbed convulsively. This brought on a severe fit of coffin—g, which caused him to wish he was "buried" out of sight of this world's troubles, as his whole future had now become deeply "shrouded" in gloom.

C. O. D. Fish, in last issue of THE OPERATOR, says that "Marshall," of 821 Court Street, Brooklyn, has four students; in fact, is a student himself, and wishes to palm himself off as an operator. I wonder if the writer knows a good operator when he meets with one. I had the pleasure of working for several months with "Marshall" when the numbers on the wire averaged 300 messages a day, and frequently going as high as 350. I found him a first-class operator in every respect, as well as a

perfect gentleman. In fact we could not rush him sending at the rate of 35 to 40 words a minute—the "O. K." at the end of half an hour's such work came as promptly as the report comes after a sharp flash of lightning. Besides the W. U. wires he has two A. & P. wires, which do quite a business. Of course he has to have some help to do all this, and when the Company (on the principle of retrenching) will not give him a capable assistant, he is obliged to call on his clerk. I cannot see what motive any one could have for trying so contemptibly to injure another, and knowing your love of justice, ask you to insert the above in THE OPERATOR. ***

Edison's Speaking Telephone.

The English scientific papers abound with praise of Edison's new speaking telephone. Two of these instruments have been tried with such success that one writer enthusiastically describes them as speaking witnesses to the wonderful skill and ingenuity of their inventor. The speaking telephone is an adaptation of a previous invention of Mr. Edison's which he called the electro-motograph, and which was based upon the discovery that when a slip of paper moistened with a chemical solution is drawn between two metallic surfaces slightly pressed toward one another, an extraordinary difference in the friction is experienced when an electric current is passed through the circuit. The construction of the new telephone receiver is as follows: A cylinder or roller composed of chalk, acetate of mercury, and caustic soda, is mounted on a spindle, and driven either by clockwork or a crank. This cylinder is kept moist on the surface by occasionally bringing a piece of damp cloth in contact with it, the cloth taking its water supply from a small trough in the bottom of the case. The "vocal organ" is a diaphragm of mica, about four inches in diameter, held in a suitable frame. Attached to the inner face of this diaphragm is a metal bar, the free end of which carries a platinum stylus, which is pressed upon the chalk cylinder by a spring. The cylinder forms the terminal of one wire, and the metal bar the other. The action of the instrument will now be understood. The cylinder, containing in itself the chemical solution whose decomposition brings about the remarkable frictional effects, is revolved away from the platinum point on the metal bar. The friction thus generated tends to draw the mica diaphragm inward, but the moment electric waves are sent through the circuit the friction vanishes more or less, and the stylus slipping, the diaphragm recovers its position. This motion occurs so rapidly that it takes the form of vibrations, and consequently sounds are produced which correspond in pitch and volume with those uttered into the mouth of the transmitter. The extreme delicacy and great power of the motograph enable a larger diaphragm to be used than can be successfully employed in those telephones whose action depends upon electro-magnet; and consequently there is no necessity for holding the instrument to the ear. It can be hung up against the wall of an office, and the words heard in any part of the room. The experiments in England with the new telephone were remarkably successful. Mr. Edison has undoubtedly made a great step forward, if he has not in fact completely solved the problem of telephonic communication.

Dashes Here and There.

Marriages by telegraph are the order of the day. This is an age of progress, and the spring-time, with its violets and bright sunshine, will not come many more times until divorces will be obtained by telegraph.—*Railroader*.

Kissing by telegraph, says the *New Haven Register*, is a new way of sparking. Must be shocking. There is not enough contiguity about it. And what young lady cares to have her kiss go from pole to pole.—*Norristown Herald*.

The adoption of the telegraph system by the English government has caused a deficiency in one year of over \$900,000. The total loss to the government since it undertook this management is over \$5,000,000.

The weather reports sent daily by the United States Signal Service Department to the Chicago and North-western Railway is proving to be an important element in the successful movement of freight traffic, as well as a useful source of information to the numberless patrons of the company. Notwithstanding the care exercised in the transmission of this report, "bugs" sometimes creep in, and are distributed thoroughly before discovered. The

latest reads thus: "Falling barometer, with mild westerly winds brooming colder," etc.—of course "becoming" was the word. The original perpetrator of this bull (a well-known Iowa dispatcher) insists that brooming is correct, and that Old Probs meant a "sweeping" wind!—which gives him "the laugh!"

CABLE companies seem to be good paying investments. The revenue of the Direct Company for the six months ending December 31st, 1878, was \$449,718, while the working expenses, interest, income, etc., only footed up \$108,742, leaving a net profit for the half year of \$340,976, or say, \$2,273 for every working day during that time. Still, we suppose it would be sheer madness to suggest the possibility of a reduction in the rate for cable messages, especially since the pooling arrangement. Perhaps, however, when the new cable companies, of which we hear so much from time to time lately, get into working order, the rates may come down. Although the main Direct cable was broken January 3d, and the short cable on February 12th, and no business transmitted until the former was repaired, March 20th, the receipts of the company, on account of the pooling agreement with the Anglo-American, were not affected.

We have at length been able to examine the French patent of Mr. Edison, which, far from altering the impression produced upon us by the perusal of the *Scientific American*, has more than ever convinced us that the system of electric lighting of the learned physicist of Menlo Park is very much beneath his reputation, and there is absolutely nothing in the new patent that could justify the panic among the holders of gas shares in Europe as in America. It is really an immense and lamentable mystification. Let us at once state, however, that, from a theoretical point of view, the apparatus devised by Mr. Edison is far from being absurd; the patent includes some ingenious details and certain arrangements which are sufficiently original; but, from the practical point of view—the only one that could interest gas shareholders—all is mediocre, childish, or impossible of realization. We should not have even referred to this patent had not the patentee the distinguished merit of having invented the phonograph. It is especially the errors of great inventors that should be exposed, since these are the most dangerous.—*Revue Industrielle*.

I have never witnessed a more ludicrous sight than the effects produced upon the Japanese by some of my electrical experiments. The innocent manner in which they stepped up to the various electric machines, and did whatever they were told, was only excelled by the dumb astonishment or the frantic yell with which they received the electric shock. No visible effect, however great, upon the first who wanted to take hold was sufficient to restrain the intense curiosity of those who wished to follow. They wanted to feel for themselves, and their ambition was usually satisfied after one trial. Two of the governors took a "spark" from one of the machines, but the third was very dignified, and would not deign to come up to the table, as it was contrary to strict etiquette. So I politely offered to bring him some electricity in a bottle. He doubted whether that could be done. In order to dispel his doubts, and also to bring him down to the level of ordinary mortals, I took a large Leyden jar, which I charged full of electricity, and brought it to him with good grace. He looked at the jar, and seeing nothing in it, concluded to touch the brass knob at the top. The effect may be better imagined than described, only he didn't show any more dignity or touch any more jars that day.—*E. Clark's "Life and Adventures in Japan."*

Improved Telephones.

A new telephone has recently been exhibited before the Academie des Sciences, said to give remarkably good effects. It is the invention of Mr. Gower, an American. He uses a very strong magnet, bent into a semicircle, with its ends or poles projecting inward and having each a small, oblong piece of iron, on which is mounted a coil of wire. These parts are inclosed in a shallow cylindrical brass case, the cover of which carries the vibrating membrane—rather thicker than usual—separated from it by an excessively thin chamber, and attached by means of a brass ring and screws—which latter do not touch the membrane at any point. The old form of telephonic mouthpiece is abandoned, and a flexible acoustic tube, with mouthpiece, is at-

tached to the middle of the cover. Thus one may speak sitting at a table while the telephone is attached to the wall. A novel feature, also, is the use of a telephone call, consisting of a small tube, bent at a right angle, and containing a vibrating reed; this tube is fixed on one side of the membrane. On blowing into the acoustic tube this reed is vibrated, and, consequently, also the membrane, which then moves in excursions large enough to be felt with the finger. A corresponding strong sound is produced in the receiving telephone through vibration of its membrane, which sound may be perceived in a hall of any size and even when other sounds are present. The tube, with the reed to it does not injure, but rather improves the distinctness of transmitted speech. Simple phrases spoken with a loud voice into the transmitter are heard as far as sixteen or twenty feet from the receiver. Another improved telephone is that invented by Prof. A. Righi, of Bologna. In this instrument the transmitter, a membrane made of parchment paper, metal or wood, is vibrated by the sound waves. A piece of metal is fixed in the center of this membrane, the lower end of which has the form of a flat piston, and rests upon a mixture of finely pulverized carbon or plumbago and silver, contained in a little thimble or short cylinder. This thimble is attached to the free end of a flat spring, whose force is regulated by a screw underneath. A small battery is used in the circuit. The results are said to be very satisfactory. Over a line three or four miles long the voice of a person at one end of the wire may be heard at a distance of from sixty-nine feet from the receiver; singing and the sounds of musical instruments at from twenty-five to thirty-five feet.

Kansas City, Mo., Items.

Considerable excitement was caused here on the morning of April 3d by Messrs. Paul W. Bossart and C. G. Wright failing to report for duty at the usual time. On looking over the morning paper we were somewhat surprised at seeing a large and conspicuous advertisement of the new "Kansas City Telephonic Exchange," embracing some of our most prominent business men, with Paul W. Bossart, superintendent, and C. G. Wright as assistant secretary. The W. U. will find this considerable of an opposition, as their rates are much cheaper and they claim their telephones (the Bell) to be superior to those now in use. May success crown their efforts is the wish of the boys. M. D. Wood is still manager, with W. H. Woodring as chief operator. Allen G. Haight is decidedly the handsomest man in the office, and "piles his good right hand" on the Denver duplex. Mr. James Gillespie has been transferred to the day force, and "shakes the lightning" on the Chicago quad. Mr. D. E. Martyn makes the poles "quake" when he "whoops up" the C. N. D.'s to St. Joe and the north. The "far famed" J. C. DeLong is with us once more, looking hale and hearty after his vacation. Mr. McMahon has been transferred from Ft. Worth, Texas, to relieve M. L. Campbell. Mr. Harry Burton works the St. Louis quad nights. He says so much "half rate" is what makes his face so "red." Jim Cowdrey works the K. P. wire. Messrs John D. Cameron and Cunningham take the place of Bossart and Wright. Master Johnny Fox was the first to receive an invitation and passes to the St. Louis ball. Johnny is the youngest and wittiest operator in the office. The remainder of the force comprises the original and old time landmarks, Charles M. Davis, the Brady brothers, Andy and Pete, Will L. Angle, John R. McGill, and W. G. Eccles. Mr. Sam Bigger is manager of the Union Depot office, and Mr. Morgan at the stockyards. N. M. In.

PERSONALS.

Cyrus W. Field was for four years prior to his interest in telegraphy a stationer and paper dealer.

E. H. Dennis, an ex-A. & P.-ist, of Kalamazoo, is now a member of the Board of Trade, Chicago, doing a good business.

The cable force at Duxbury, Mass., has been transferred to Boston since the parting of the cable between Duxbury and St. Pierre, February 25th.

Frank Beane, of Goshen, Ind., has been browsing around Iowa, visiting his relatives at Cedar Rapids and his telegraphic friends along the C. & N. W. line.

We have received a complimentary ticket to the promenade concert and ball to be given by the telegraphers of St. Louis on Wednesday evening, April 23d. The design is very pretty.

I. A. Gardner, formerly night operator at Forks, Pa., on the D. L. & W. R. R., has received the appointment of agent and operator at Chagewater, on the same road. His many friends wish him success. John Dugan has been appointed to fill the vacancy.

RESTITUTION.—I had to stand that loss when you left. The boss holds the money until he hears in some definite manner that the inclosure came from you. Please send him a line to that effect or let me know that it came from you. I bear; you no ill-will, and should be glad to hear from you.—MAC.

Mr. Flag, of the Western Union Telegraph office, Meriden, Conn., and Mr. Voyer, an operator from New York, commenced at 11 o'clock on Friday night, March 28th, a twenty-four hour walk for a handsome silver cup. Voyer gave out after walking 47 miles, but Flag kept it up until he had walked 73½ miles. Both men are said to be good walkers.

Mr. J. J. Terwilliger has resigned the management of the Middletown, N. Y., office, and accepted a position as book-keeper for C. R. Fuller, an extensive coal and lumber merchant of that place. Mr. Garry McDermott, for several years the night operator there, has been promoted to the management, and Mr. George Wright, extra operator, has been appointed regular all-night man.

C. P. Dozier, a well-known Pacific Coast operator, died at Auburn, California, recently, of consumption, after a lingering illness. Mr. Dozier was chief operator at San Francisco for some time, and years ago constructed a telephone of his own invention with which he was able to transmit sounds, though the instrument was crude in comparison with the telephone of the present day.

L. S. F. asks: "Take, for instance, a chair and put an insulator on each leg. Is that any protection whatever from lightning striking the person sitting in the chair, feet not touching the floor? Please give your opinion, which will decide the argument." Practically it would be no protection. The insulators would increase the person's resistance a little, but not enough to prevent the lightning striking him if he were in its path.

An operator named Darmody, a native of Marion, Ohio, and formerly train dispatcher at Denver, Col., for the Denver & Rio Grande Railway, was instantly killed at Cressy Station, on the S. P. R. R., March 12th, while acting as brakeman, in which capacity he had been employed for the past two months. Darmody was attempting to cut the engine loose from the train, which was in motion, when in some manner he lost his footing and fell under the wheels. The body, which was horribly mangled, was interred at Stockton.

Horace N. Rowell, of this city, whose resignation as Superintendent of Telegraph on the Eastern Railroad takes effect to-day, was last Saturday made the recipient from the operators under his charge of some very elegant presents, including a split bamboo fishing-rod mounted with silver and suitably engraved, a landing net, a silver weighing scale, and a meerschaum pipe. He also received very kind letters from the operators, in which they expressed deep regret on account of their superintendent's early departure. Mr. Rowell is one of the best known telegraphic managers in New England, and has a host of friends.—Concord, N. H., Cor. Boston Journal. Mr. Rowell was for several years superintendent of repairs in the Fourth W. U. District, under Supt. Gates.

ALBANY, N. Y.—Mr. Clarence Miller having recovered from his illness, has returned to Albany, and resumed the management of the Capitol office. Mr. S. I. Herschberger, of the W. U. office, has entered into partnership with his brother in the merchant tailoring business. They have a very attractive store in North Pearl Street, and we hope that the new firm will realize much greater success than "F." even hopes for. Mr. Thomas P. Nightingale, manager of the American District in Utica, was in town a short time since, looking up the telephone business, with a view to introducing the "phones" in that city. A new wire is being built from Boston to Albany, for use on the Buffalo and Boston "quad" circuit. X. Y. Z.

C. C. D. & M.—Beginning at Wadena, Minn., we find Mr. O. A. Anson. E. W. Griffith is at Volga City. W. F. Foster attends the Company's business, and buys produce at Osborne. W. E. Talmadge flies around at Elkport. Will and Dan Sheehan sling sparks at Turkey River, and do it well. At general office, Dubuque, Messrs. Uncapher and Enos rush the boys, under Mr. E. P. Lyman. At the shops M. Maloney waits the fluid, and is as good

as they make them. Charlie Herron, agent and operator at Bellevue, still manufactures plugs. At Green Island we have N. J. Maxson, the silent man. Joe Clark works Su. (Sabula) and runs an eating house. At the Junction, Van Camp, who claims to be the best looking man on the line, holds forth. Johnny Maloney, the lazy man, is at Elk River Junction. C. H. Reeves still hangs on to Midland Junction. Come, boys, you that do not read THE OPERATOR, send your names with subscription price to Mr. Johnston, and I warrant you will never be without it again. COLDHAM.

GRAND RAPIDS, MICH.—Charley Russell is back in the general office of the G. R. & I. R. R. Co., after a short but exciting experience with the mumps. He cut quite a "swell" for a few days, but has now settled down to the rush of "ahr," and with a steady hand gives his "O. K." "R" like the good boy that he is. Jimmie Manby has returned from Fort Wayne—nights—and now fills his old position—assistant train dispatcher at Union Depot. He was relieved by J. F. McClintock, from South Yard. Mc is an old-timer and a clever fellow: Will Barrett has been transferred to South Yard, days. The A. & P. wires at Kalamazoo have been run into G. R. & I. office, and the "button" is turned by O. C. Porter, assisted by Mr. Johnnie McQueeney. Mr. Porter was transferred from night dispatcher's office, Grand Rapids. Mr. Adolph M. Barron now does the amiable in that office. The Western Union folks report good business. Sam E. Watson, one of the old residents, has resigned to accept a position as Superintendent of the Telephone Exchange, soon to be established in this city. Sam is now with the Detroit Electrical Works, doing lightning tricks on the positive pole with a magnet in either hand. We wish him success; he deserves it. Miss Fletcher, of Detroit, has been added to our ranks. Glad to have her on our circuit, and hope her stay may be prolonged and pleasant for all.

MARRIAGES.

FORMAN—BRENNER.—April 4th, at Doniphan, Kansas, Harry W. Forman, train dispatcher A. & N. R. R., to Miss Eby Brenner.

MORE—NEWELL.—March 24th, at Buffalo, N. Y., by the Rev. Walter North, Mr. L. M. More, manager of the A. & P. and Dominion Telegraph Companies, to Miss Nettie J. Newell, both of Buffalo.

TATOR—HOAGLAND.—April 16th, at St. Louis, Mo., Mr. W. E. Tator, operator in train dispatcher's office, Cairo & St. Louis R. R. (formerly of Middletown, N. Y.), to Miss Missouri Hoagland, of St. Louis.

BIRTHS.

April 7th, to Charles W. Knowles, operator E. R. R., East Salisbury, Mass., a daughter.

DEATHS.

Minnie A., daughter of Mr. Fred A. Clondman, of the Continental Telegraph Company, formerly of the W. U. Fulton Market office, N. Y.

April 4th, at Jersey City, of scarlet fever, Gertie, daughter of W. Maver, Jr., of the Western Union main office, New York, aged 1 year, 6 months, and 20 days.

April 6th, at New Orleans, of consumption, Chas. N. Miller, a native of Louisiana, and recently operator at Port Eads, La., aged 26 years.

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Serious doubts exist as to the advantage to be derived from the more exhausting exercises of the gymnasium; there is, however, but one opinion among medical authorities as to the value of the milder form of physical culture known as light gymnastics; and it is the object of the invention which is here introduced to supply, in the most compact and useful form, all the apparatus required for the best development of physical power in both sexes and at all ages.

It is admitted that sound health and symmetrical growth cannot be secured and maintained for a prolonged period without a perfect circulation of the blood. Congestions of brain, or stomach, or liver, or other internal organs, must ultimately follow a life without activity—a life of partial torpor. The man of business, the professional man, uses the brain excessively, but neglects the body. By and by, brain and body break down. If the blood had been sent actively to every tissue and fibre by physical effort rightly directed, body and brain would not wear out in a century. What is true of the professional, or business man, is true of the woman in her home, the operator at his desk, the child in school. All these classes are employing the brain more or less actively, and all are exerting one portion of the physical structure while other portions are neglected. The right hand of the penman is over worked, as is the lower extremity of the sewing machine operator, while the muscles of other portions of the body, with all their interlacing network of nerves and blood vessels, are permitted to remain inactive and comparatively unused. The consequence of this unequal exercise is made apparent in many ways. There is deformity of the chest and back, a curvature of the spine, a flattening of the thorax, a lessening of the breathing space, a weakening of the heart's action and a general loss of vital power.

It is neither difficult, nor onerous, nor expensive, to keep the human frame in perfect condition by the means which are here indicated. The emotions attending the use of the tubes are only those of satisfaction and pleasure. Young persons enter into the exercises with the keenest zest, relinquish them with reluctance, and return to them when the appointed hour arrives with the liveliest expressions of delight. The brain-weary scholar finds ever-renewed exhilaration and mental elevation from their regular, daily use. The worn and weary woman acknowledges the sparkle and glow which comes from a few moments' daily practice with these health-giving appliances. Even the bed-ridden invalid, or convalescent, unable to walk, and without the power to take exercise in any of the ordinary modes, can find something of invigoration by toying with these life-giving tubes; while the active brain of the person whose toil throughout the day has banished sleep at night is lulled to repose by the equalization of the circulation which a few moments' exercise with these tubes induces.

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No. 1.—For Children from 4 to 6 years.....\$1 00	No. 4.—For Children from 10 to 14 years.....\$1 30
No. 2.—“ “ “ 6 to 8 “ 1 10	No. 5.—“ Ladies and Children, 14 years and up. 1 40
No. 3.—“ “ “ 8 to 10 “ 1 20	No. 6.—“ Gentlemen of moderate strength.... 1 50
No. 6.—With handles, screw-eye, and hook.....\$1 75	No. 8.—For Gentlemen of extra strength\$2 50
No. 7.—Used by Ladies, Children, or Gents\$3 00	Goodyear's Patent Health Lift Complete....\$5.00

Nos. 6, 7 and 8 are fitted with a screw-eye and hook, to attach to the wall or floor. A pair of No. 7 (\$4.00), or 8 (\$5.00), make a Complete Gymnasium. Extra hooks, 5 cents each, or 60 cents per dozen. "BLOOD AND BREATH." By Prof. J. E. Frobisher, to accompany Goodyear's Pocket Gymnasium. Price 25 cents. We send these goods to any address, post paid, on receipt of price.

The Goodyear Patent Health Lift.

The apparatus consists of five pieces: the Lifting Board, mounted on small rubber balls; two heavy Rubber Tubes about a foot in length, and two detachable Handles. Complete, it weighs about 3 pounds.

It may be used in a standing, sitting, or reclining posture. When operated in a standing posture, the head should be held erect, and when reaching downward, the knees should be flexed, observing not to bend the spinal column, either backward or forward.

When exercise for the muscles of the back is desired, it is safer and pleasanter to employ the sitting posture. This position, likewise, gives great freedom for either limb or arm movements. By occupying a low stool or ottoman, the largest liberty is obtained for bringing into vigorous and harmonious action the muscles of every part of the body. The extremities are thus warmed, the circulation equalized, local congestions relieved, and the vital forces stimulated. The supine position favors deep breathing, and secures an alternation of complete rest with each expenditure of muscular effort.

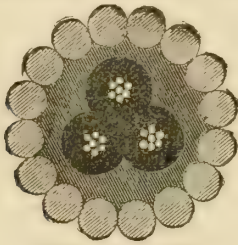
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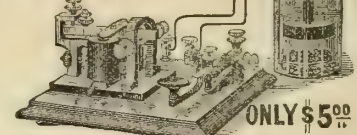
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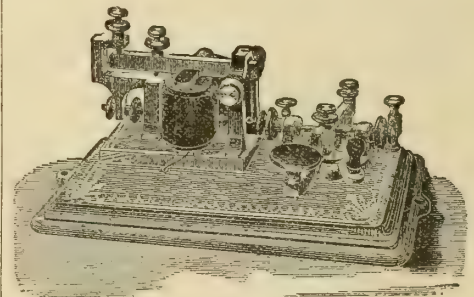
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A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY.

VOL. X.

NEW YORK, MAY 1, 1879.

No. 9

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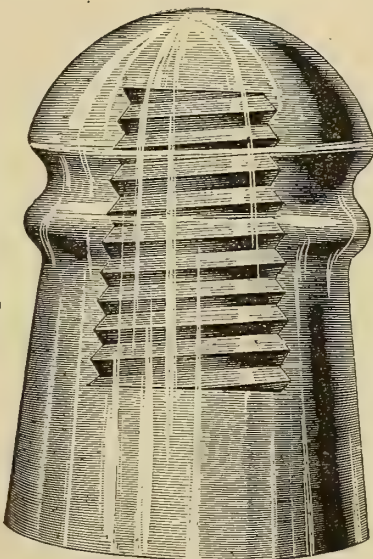
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February 12, 1877, he writes further, "This piece of Kerite wire, unprotected by any covering, was in use in the tunnel under the river in Chicago from Sept. 1869 until December 1876, and shows no signs of decay or deterioration in its insulating qualities."

Prof. MOSES G. FARMER says, "I have used your Kerite as leading wire more or less for four or five years. It stands abuse, changes of temperature, alternate wetting and drying better than any insulator I have tried."

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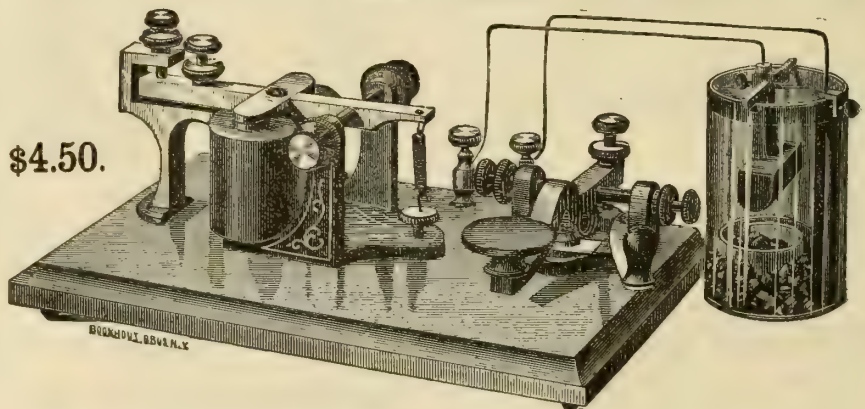
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THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

May 1st, 1879.

Volume X.

Whole No. 125.

M. U.

The summer night is dark and hot,
The sultry sky, like a heavy blot,
Hangs low o'er a quiet sweltering town;
Some heavy drops come spattering down,
Foretelling a storm not far away—
Though dimly as yet the lightnings play
Has pierced the darkness 'neath the trees,
And in the air no breath of breeze
Yet sweeps the leaves in the village path.
A moment more, and the muttered wrath
Of the moaning pent-up storm shall break,
Hot bolts its van—a flood its wake.

Alone in an office, close and damp,
By the flickering light of a single lamp,
Sits a lonely plug—there hard at work;
His pencil moves with uncertain jerk,
As he strives to note with attentive ear
The wired words passing swift and clear;
The sounder runs with incessant click,
And the office clock beats an answering tick,
As it tallies the speed of the words that fly
In a race with the lightning of the sky.

To him a woman in haste there came,
Who hurriedly giving her husband's name,
Cried, "Bid him come, if he comes by morn
He may yet find alive our loved first-born."
And the plug feels his heart beat quick and warm
He heeds not the wrath of the coming storm,
Though prudence now whispers, cut out and go,
He will send this message however slow.
He, too, has a home, and a baby there
That 'twould grieve him sore hard were he called
to spare.

So he grasps his key, and his hand is true,
Calling "B. B. B. seventeen M. U."
And "Aye, Aye—Aye, Aye." B. answer makes,
And the message is sent with a dozen breaks.
Then M. U. at O. K. cuts out—when a flash
Through the room burns its way—a terrible crash,
And the man at the key lies dead on the floor.
To break or to bull on a message no more,
Dead—only a plug unskilled, but still
He could forward tidings of good or ill,
And die in his place in the lower-rank
For the words that were writ on a message blank.

Again on the line the business flew,
And "M. U." "M. U." "eighteen with you,"
At intervals came to raise the dead,
Or the wishes of men still silently sped
O'er the trembling wire; but once for all,
M. U. had answered another call. Y. R. DUPLEX.

Repeaters.

Ten or twelve years ago, before duplexes, quads, harmonics, etc., came into fashion, operators electrically inclined turned their attention to repeaters, and, to be able to put up a "Hicks," or any other of the numerous patterns then in use, was considered quite an accomplishment.

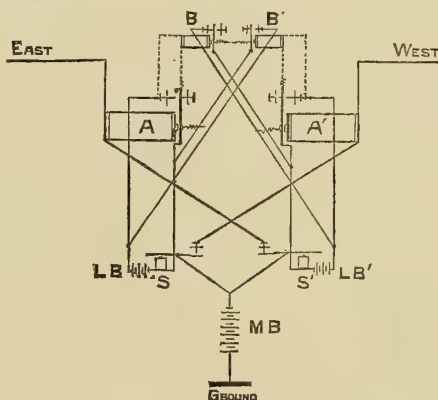
Though I first entered the operating ranks in 1855, my first introduction to any repeater did not take place until 1861, when spending an evening in St. Joseph, Missouri, I stepped into the city office, and there saw one of the old original automatic Hicks working on an overland wire. Owing to rain and consequent hard working wires, the automatic part would not work, and the operator was using it as a button repeater by holding his hand on one side or the other as breaks were made. It was a fearfully complicated arrangement. I remember the operator telling me that *thirty-six* wires ran to the table on which it was placed. If any readers consider this rather too strong a statement, let them get a copy of Prescott's first work and study the diagram for themselves.

In 1867 I picked up a copy of the *Telegrapher* containing a description and cut of Toye's repeater. Many a day I spent over that diagram trying to understand it. At last I succeeded. I then became a regular subscriber to the *Telegrapher*, procured all

the back numbers, and with some practice on repeater diagrams printed before and after that time, such as Farmer & Woodman's, Clark's, Brownson & Shull's, Bunnell's, and others, I soon found no difficulty in at once mastering the mysteries of the most intricate diagrams published in that and other telegraphic papers. Sometimes articles were published which at first I could not understand. Mr. Pope's able contributions explaining the duplex system were too much for me at first, and I passed them over; but in a year or so, when the subject again began to attract attention, I returned to the articles, and, with increased knowledge, found no difficulty in understanding the principle. Young operators, and old operators, also, desiring to know something about their business, cannot do better than purchase such a book as Davis & Rae's, and keep at it until they can easily understand and explain all therein contained up to the complex plan of the "quad" itself. Such a discipline will be found of the greatest service.

Of course, after obtaining this knowledge I at once commenced to arrange repeaters for myself, and in a short time invented one which (in theory) worked perfectly. I felt sure it would eclipse all others and make my fortune immediately. Unfortunately, theory and practice do not always agree, and, after spending a good deal of time and money in making a set, I found it a complete failure.

Even after this rebuff, however, I persevered, and about four years ago succeeded in arranging a system, and a good deal of experience in its use on the lines of the Dominion Telegraph Company has satisfied me that it is as simple and reliable as any yet introduced. Quite a number of offices throughout the country have button repeaters in use, and no doubt operators condemned to attend to them will be glad to hear that by my system they can easily convert the button arrangement into a first-class automatic, if they can in any way procure two old relays.



In the diagram A and A' are ordinary relays; S and S' are repeating sounders worked by their respective local batteries; and B and B' are small relays, each about 30 ohms resistance. The repeating sounders measure about two ohms each.

The main circuits can be traced through their respective relays to the repeating points of the opposite sounder, and thence to battery or ground. The local circuits are as usual, except that when the relay points are open the current is shunted through the small relays B and B'. Their resistance is such that, though the local current running through easily closes them, the sounders open as promptly as if the current was broken and closed in the usual way.

In the cut the eastern relay is open. Its sounder also opening, the circuit of the western wire is broken. At the same instant, however, the current from L B flows into small relay B, which promptly closes, and by its local points puts a cut-out on the western local circuit, keeping sounder S' closed, and at the same time preventing any current from passing into small relay B. If the operator on the western wire breaks, the reverse operation takes place. Switches can easily be arranged for restoring the two circuits to their normal condition.

Though experience has shown that relays of about 30 ohms resistance are best for B B', still ordinary relays of 150 ohms will answer very well, especially if their resistance is reduced by cross-connecting the wires, or even by using only one of the helices. Two cups of ordinary gravity battery are quite sufficient for the locals. As we could always get spring-point repeating sounders, we

have used them in preference to direct hammer contact, but they are not absolutely necessary, as any button repeater sounder will answer the purpose quite as well. At least that is my experience, though I must say I have not given it a very full trial.

The usual good working of this repeater is to be accounted for by the fact that, no matter how weak the local batteries get, there is always strength enough left to close the small relays; variations in the strength sufficient to interfere with the working of the sounders are not noticed on these relays, and they require little or no adjustment.

This repeater will work over heavy escapes quite easily. If it is necessary at any time to put an extra strong adjustment on the main line relays, a slight turning down of the small relays will suffice to balance it.

I am indebted to Mr. Bunnell for the shunt circuit idea. Since his repeater was described, over ten years ago, the principle has been adopted by others (see Gray's shunt repeater), but I consider that Mr. Bunnell is fairly entitled to it, so far as its application to repeaters is concerned. HUGH NEILSON.

A Co-operative Kitchen.

"I say, boys, I've got a brilliant idea into my head."

The speaker was Sammy Pratt, and the "boys" he addressed were Johnny Searls, Neddie Adams, and Charley Green. They were all day telegraph operators in a certain large office in a certain large city whose name I will not mention. When the above remarks were made they were at their boarding place after their day's work was done, and, as usual at that hour, were all assembled in Sammy's room, having disposed of their supper some time before.

"Out with it, Sammy," said Neddie, "it may be a long day before you have another."

"We are all ears; go ahead period," put in Charlie.

"I'm listening," declared Johnny.

"Well, I've been thinking for some time that I didn't see why we four couldn't keep house, and save about one-half the twenty dollars a week that we, collectively, pay for board. I am short of funds all the time myself, and I don't doubt but that you fellows are just as badly off. If we could hire a kitchen and two bed-rooms we would be 'O. K.'"

"An idea worthy of Prof. Morse himself, Sammy," cried Charlie.

"I've been thinking of the same thing myself, and don't see why it wouldn't work capitally," answered Johnny.

"I go with the crowd. When shall we commence?" chimed in Neddie.

"Well," said Sammy, "I propose that we hire a good sized room, and make a co-operative kitchen of it. We can get a second-hand stove cheap, and a few chairs and a table, and some dishes won't cost much. Each one shall do the work he can perform the best, and we will be as independent as kings. What say you, boys?"

"You are a first-classer, Sam," and Johnny gave his friend an enthusiastic slap on the shoulder.

"Give me your hand for ninety days, old fellow," exclaimed Neddie.

"I'm your man," cried Charlie. "Sink or swim, live or die, survive or perish, I give my heart and hand to this note."

"All right," said Sammy. "Now let's see what part of the work each shall do when we get our house. I will do the pastry cooking. I can beat the world in that direction. I used to cook for mother when I was a little shaver, with a few hints from her. I can have a cook-book, you know, and I assure you we will have the best pies and cakes and things in the city."

"I'll take care of the meats and such things," said Johnny. "I can cook steak, boys, so that it will bring tears to your eyes."

"I'll do the sweeping and set the table," said Neddie.

"And I'm just the chap to make the beds and wash the dishes," declared Charlie.

Several evenings were spent in house hunting, and at last our operators found what they wanted, a large room, which could be used as a kitchen, and out of which opened two bed-rooms. Their next search was for a stove and some furniture. They found a dealer in second-hand furniture who supplied them with half a dozen chairs, a pine table, and a broom. A stove, which the hardware dealer declared had only been used a few weeks, was next secured, together with the pots, kettles, etc., belonging to it, and a man engaged to take that and the

furniture to the room prepared to receive them. What dishes they thought they should need were next purchased.

It was late before the young men went to bed on the night they set up housekeeping, but when they at last sought their pillows they had everything arranged for future use. They had furnished their own rooms at their late boarding house, so that no new furniture was needed for the sleeping apartments. They decided to get their next breakfast and dinner at a restaurant, and lay in the necessary provisions for doing some cooking the following evening.

It was noticed the next day that "S," "J," "N," and "C." broke more than usual, but that could have been accounted for by the fact that their truant thoughts kept wandering away from the receiving of messages to the home they had provided for themselves, and took the form of wonder as to how they should succeed with their respective duties therein. As soon as office hours were over they started for their domicile, whither their provisions had preceded them, for Sammy had ordered them at noon. He had also ordered some wood ready for use, and some coal. They held a brief council, and, after hanging up their coats, but with their hats still on their heads, proceeded to their respective tasks. They determined that they would have baked potatoes, an Indian cake, and some steak for supper, to be washed down by tea. Johnny spent twenty minutes inducing the fire to burn, while Sammy washed the potatoes, and got them ready to bake. In the meantime Charlie made sheets and blankets fly in all directions, preparing the beds for making, and Neddie set the table with dishes over which a dish-cloth had never been passed.

"Now for a Johnny-cake," said Sammy. "Let me see what I can find about them in my new cook-book. Oh, yes, here's a recipe. 'A pint of sour milk.' The Dickens! We haven't any sour milk, but I guess water will do. 'One egg.' Can't have that, either: I will get some eggs to-morrow. 'A half pint of meal; a little molasses; a teaspoonful of saleratus, and salt to taste.' That's easy enough, so here goes. 'A pint of water.' Correct. 'Half a pint of meal.' In she goes. Oh, gracious! I forgot to sift it, but I have no sieve, and I presume it will be just as good. 'A little molasses.' I wonder how much that means; I'll put in half a pint, same quantity as the meal. 'Salt to taste.' S'pose that means so you can taste it. I'll make it three great spoonfuls. Now it's O. K."

After a few seconds of vigorous stirring he emptied the mixture into a large baking pan and put it into the oven.

"They say steak is best broiled," soliloquised Johnny, "so I'll cook this in that way. I can just hold it over the coals on a fork, as I have no grid-iron."

Three minutes afterward there sounded through the room a very impatient exclamation, for Johnny had dropped the meat off the fork and into the stove, where it burnt and shriveled to a mere nothing, while he and Sammy were making frantic efforts to rescue it from the flames.

"Well, we'll have some good tea," said Sammy, "and I guess we can make out a supper with potatoes and bread and butter. This teapot isn't very large, so I won't put in but a cupful of tea. There, now let's rest a few minutes while the potatoes and Johnny-cake are baking." Twenty-five minutes went by, and then Sammy took a peep into the oven. "What in the deuce is the matter with this stove, I wonder," he said, in a puzzled tone. "These things haven't cooked a bit."

"Are the dampers alright?" asked Neddie.

"A timely thought, my boy," was the reply; "they must be wrong."

The dampers were differently arranged, and then the young men sat down with a hungry look on their sober faces to wait for their supper.

At last it was ready. It is true the potatoes had not had time allowed them to become thoroughly cooked, and the cake looked rather black, but each took his seat at the table with an air that said as plainly as words could have done: "I am bound to overlook trifles."

"Jerusalem crickets!" exclaimed Neddie, who had taken it upon himself to pour the tea. "This stuff is blacker than your hat, Sam. What ails it?"

"I s'pose it's too strong," was the answer. "You can put a little of it in each cup and then fill them up with water."

Then came the discovery that they had forgotten to heat any water, so cold must be used.

"Pass the cake along, Johnny," cried Charlie, "for I'm in a starving condition."

Very soon each of them had a potato and a piece

of Indian cake on his plate, and was commencing to eat. Presently Johnny said:

"How in the name of all that's wonderful did you make this cake, Sam? It's got more lumps in it than a New England sheep pasture, and is so sweet it's fairly sickish. And will you think me impertinent if I suggest that our salt-box had better be replenished?"

"And it's as heavy as lead," chimed in Charlie.

"I had nothing to sift the meal with," answered Sammy, "and as true's you're born, boys, I forgot to put in any saleratus. Possibly I got in a trifle too much molasses and salt."

"I should say you did," said Neddie, wiping the dust off his plate with his pocket-handkerchief.

It was rather a hungry looking family that arose from the table, but he it said to the credit of its members that they did not break a certain commandment more than a dozen times. There was stillness for a time, only disturbed by the clatter of Charlie's dishes, as he washed them in the tin wash-basin.

"I'll own up, boys," said Sammy, after a time, "that I haven't done very well to-night, but I have thought of an excellent plan that I will tell you about."

"Hope it will work better than your last one has so far," grumbled Johnny, forgetting the hearty manner in which he had encouraged acting upon said plan.

"I think it will," was the good-natured reply.

"We will buy some corned beef in cans for breakfast, and can bake some more potatoes, you know. Before I go to the office I will see that there is a good fire, and put some oat-meal on and let it cook while we are away. It is much better, they say, if it cooks a good while. We can get some cream to eat on it, and dine as luxuriantly as you can think."

This they all agreed looked favorable, and Neddie was sent to buy the beef. Charlie's beds were found to be rather uneven, but the young men were too tired to be critical.

Thanks to the beef, the breakfast passed off nicely, and after it was disposed of Sammy proceeded to prepare his oat-meal for cooking.

"I wonder how much we shall need," he muttered. "We shall be hungry, so I'll put in five quarts."

Five quarts were accordingly measured out and put into a kettle with some water.

The forenoon passed away, and at 12:15 our operators found themselves at their own door. What a sight met their astonished eyes as they opened it! The heated oat-meal had swollen and run over the top of the kettle, until the entire top and sides of the stove were covered with a hard crust. The fire was extinguished, and some lively scraping done before the stove was cleaned. A hasty lunch at a restaurant was all the dinner the amateur house-keepers got that day. That evening they determined to "do or die." On their way home some more steak, some eggs, and some sour milk had been purchased. Sammy mentally resolved that he would make some sponge-cake after supper was gotten out of the way, so it would be ready for breakfast. His past failure had made him more careful, and this evening his Indian bread was made exactly as his recipe directed.

Johnny succeeded admirably in broiling his steak, and when it was buttered the plate on which it rested was handed to Neddie to be placed on the table, but that young gentleman stumbled over a chair that stood in his way, and down went plate and steak into the coal-hod.

"I never saw such a set of blunderbusses," said Charlie. "I believe I'm the only one here who has his wits about him."

With rather black looks our party sat down to partake of Indian bread and the remnants of the corned beef, which was used as a substitute for the lost steak. After supper had been over for some time, and they were wondering whether to go out or stay at home and play euchre, a strong odor of burning cloth came to them. They arose quickly and began looking about for the fire. On opening one of the bed-room doors the bedstead and bedclothes were found to be in flames. The carpet, too, was burning in several places where fragments of the blazing cloth had fallen upon it. What water they could instantly secure was used, but before more could be brought the partition near the window took fire. A man who was passing gave the alarm, and very soon fire-bells were ringing and engines being brought in great haste.

No great damage was done, but our young men received notice the next morning to vacate the premises at once, as the landlord considered them too careless to occupy his house. Charlie confessed

to him, you see, that he was smoking a cigar while making the beds, and supposed the fire from the end of it must have drooped into the straw.

These operators did not try to find another house, and the articles of furniture and the stove they had purchased might have been found in an auction room the day after the fire. The heart of a poor woman was gladdened by its owner receiving as a present their dishes and remaining provisions. They never find fault now with anything they are expected to eat, and nothing will make them more uneasy than to mention in their hearing a co-operative kitchen.

L. A. CHURCHILL.

Telegraphy; What it is, What it has Done, and is Doing.

Sir James Anderson delivered a lecture before the Workmen's College in London, March 6th. Though elementary in a scientific point of view, the following extracts may not be uninteresting to some of our readers.

Whenever two dissimilar metals are placed near each other, with a porous or fluid substance between them which will act chemically on one of the metals only, you have what is termed a galvanic battery, so called from the circumstance that about the end of the last century "Professor Galvani discovered that convulsions were produced in the limbs of a frog by establishing communications between the nerves and muscles by means of metals." And "Professor Volta, of Italy, showed that electricity might be developed by arranging discs of silver-moistened cardboard and zinc placed alternately on each other."

From these simple foundations have sprung all other forms of galvanic and voltaic batteries, and the force which is generated by these batteries is termed electricity.

This electric force is produced by the waste of one of the metals, and neither this nor any other force can be produced without the consumption or waste of something or another, otherwise we should at once have discovered perpetual motion, and there would be no necessity for main springs for watches nor of coals for steam engines, and so on.

What electricity is we do not know: it is only a name, just as we speak of life, or heat, or gravitation. We know nothing more about one or the other than that they exist. Under certain conditions they are forces which we use to the best advantage for such objects as may seem to us desirable, and they may all of them be electricity for anything we know—they probably are electricity.

I shall now illustrate a battery. We have in this glass vessel two plates of metal, one of copper, the other zinc. They are placed in a fluid. Fresh water alone, still more salt water, or sulphate of copper (common blue stone) or vinegar or sulphuric acid, would set up an electric current at the cost of eating away or consuming the zinc. The strength of the electric force which is liberated will depend upon the strength of the solution, and the amount of zinc consumed, so that in order to get a large amount of force you must increase the size, or multiply these cells by connecting one with the other to any extent required, as illustrated by these cells, which you see connected one with the other.

When sufficient electricity is required to light the street lamps you must use a steam engine to drive a machine to generate an electric current, and keep up an active consumption of carbon to generate the light. So that it is still indispensable to use coal or gas to move the engine which produces electricity by consuming something else. For this reason it can never be an inexpensive luxury.

Whenever these plates are brought into contact outside the fluid, a current flows from the copper to the zinc, and the current which is given off by the copper is termed positive electricity, and that from the zinc negative electricity.

I shall illustrate this by the well-known and simple experiment of winding round a rod of iron, which might be a common kitchen poker, a length of wire covered with cotton, and so covered to prevent the electric current rushing off at any point where the coil might touch the poker, or touch any of its own points.

If we now apply the current to this coil of wire the poker at once becomes an electro-magnet, and has the power of attracting these nails for example; it also assumes at once all the properties of the magnet, and has two poles, one end of which you will see will attract another magnetic needle, and the other end as you see repels it.

This is a well known law of the magnetic needle, poles of the same name repel each other, and poles

of opposite name attract each other, so that actually the end of the needle of the magnetic compass, which points north, is in reality the south pole of the needle.

I shall now describe the difference between an aerial line, and an underground line, and a submarine cable.

Every substance in the world will conduct heat or electricity, but some things are such bad conductors that they are called non-conductors. And among the best conductors is, first, silver wire, then copper, and we can nowadays manufacture a class of iron wire specially suitable for conducting electricity. Next, water and the earth, on account of their great mass, are good conductors.

The very bad conductors which we know as the most valuable non-conductors are glass, highly glazed porcelain, india rubber, and gutta percha, and best of all, the air itself, especially when dry.

You will now see the reason for the wires which you see over your heads everywhere you go being supported clear of the ground, and fastened to porcelain cups, which are called insulators. If these cups were to break or become porous, some of the current would escape down the pole, and if the wire rested on the wooden pole, or if a branch of a tree fell across the wire, the working of the line would be very defective, and if the day were wet it would be useless until the difficulty was removed.

It is a popular notion even yet to apprehend that lightning rods attract lightning, which you know is electricity. This, however, is altogether wrong. The lightning rod is a better conductor than anything else usually in the neighborhood. So that if the lightning is there, it will, like the current from the battery, rush along the channel prepared for it, and go into the earth rather than shatter its force against such bad conductors as bricks and mortar. Water follows the same law, and will flow into a channel ready for it before it will seek to force its way in any other direction.

A land line, then, is the most effective, simplest, and cheapest conductor in the world for all telegraphic purposes, as you cannot injure the air by any amount of electric current, nor yet damage the wire by any amount which science requires. You can apply such an amount of electrical force as to give you great speed, or ring bells, or fire cannons many miles distant from your battery.

But there are objections to the too great multiplication of wires overhead, especially in great cities, and the system is growing of putting wires under the ground. Already in the City of London there are 4,500 miles of wire underground, and to adapt a wire for underground it must be covered with some non-conductor, such as gutta percha, to keep it from touching the earth. The same applies to submarine cables; they must be so covered to keep the wire from touching the water, or the cable would be useless.

Now, when a wire is encased with any substance, you have altogether different conditions from that of a wire in the air. You have, in fact, a tube or pipe which the electric current must go through, all the time trying to escape as it goes along, so that if there should arise the most minute puncture at any spot along the whole line this would gradually become larger and larger, until the whole current sent in would flow through it, and none would reach the further end to convey the signal.

A cable must then be worked with a much smaller battery power than can be used with impunity upon land lines; for one reason among others you cannot force a rapid succession of strong current through this small tube, which a cable resembles.

We might illustrate the difference of a land line and cable by imagining a short water pipe with a water wheel at the one end, the water will fill and flow through the short pipe instantly, and turn the wheel, but with a pipe of great length the water is longer in filling it, and takes longer to get to the end to turn the wheel. The short pipe represents the land line, the long pipe the submarine cable.

This retardation to the flowing of a current of electricity through a cable, or the flowing of a stream of water through a pipe increases as the square of the length of the pipe or distance, that is to say, if you double the length of your cable the retardation is increased four times, and if you treble the length of your cable the retardation is increased nine times. I am indebted to Dr. Muirhead for this familiar illustration. You can readily comprehend that a pipe two miles long will take twice the amount of water, and twice the time to fill which would be required in a pipe one mile long, and when you continue this squaring of quantity and resistance to thousands of miles the element becomes

of the greatest importance, and is in fact a barrier to the rapid transmission of signalling through long cables which science has only overcome to a very limited extent. In practice, according to Willoughby Smith, one of the most experienced practical electricians of the day, no more of the electric current arrives at the distant end of a long submarine cable of, say, 2,000 miles, to make the signal than is produced by an active seamstress plying her needle.

This law of resistance increasing as the square seems to pervade every force in nature, from the motion of the planet to the speed of a vessel through the water, the resistance increases as the square of the velocity; and in the case of the electric current the resistance increases as the square of the distance. An exact mathematical principle pervades every force in the universe. There is nothing accidental in nature's laws.

High rates of speed can be got through short lengths of cable. A few miles, say 50, you may get 200 words per minute, and perhaps 50 words per minute through 100 miles, but when you come to long cables of 2,000 miles you must enlarge the size of your copper wire and insulator to a great extent to get even 20 words per minute.

This would be relatively the same whether you had to conduct water or electricity. If you want the same volume through in a given time you must increase the size of the channel. Resistance to a rapid flow of anything through a contracted channel must decrease the speed.

As already explained, there are two kinds of electricity, positive and negative, and when speed of signalling is of great consideration, as it generally is, you send in these currents alternately, and at a speed as great as they can be made to arrive at the other end and produce signals: and at this point the two currents, positive and negative, which I have already illustrated by the electro-magnet, become of practical value in increasing the speed.

The Sudden Death of J. B. Fuller.

One of the early friends and associates of Edison was a young man named J. B. Fuller, a Connecticut Yankee, in whom the inventive faculty was active from boyhood. Fuller made a great deal of telegraph machinery and invented many industrial processes, such as modes of utilising wood pulp in paper-making, etc. Ten or fifteen years ago Fuller separated from Edison because it would no longer do to have them work in company. The inventions of the one might easily have been said to be due to the suggestions of the other, and so the two men parted, never to see each other again. They were men of very different qualities, Edison being quick to seize upon a new thought in natural science and apply it to practical use long before any one else could see its practical value, while Fuller loved deep problems and research, and was much more gifted in the work of discovering new principles than in applying them. He was an eager student and a desperate worker, and succeeded in mastering so many of the mathematical and other problems connected with electrical science that he became the greatest authority thereon, particularly on magnetic induction, in this country. Fuller took up the subject of the electric light in 1874, and has been studying it, in an obscure laboratory in Brooklyn, until the present year. He found at the outset, like so many other men, that there was need of a good magneto-electric machine. He invented his own, based on the principle of Gramme's, and produced so powerful a one that three years ago he succeeded in having it adopted by the Gold and Stock Telegraph Company of this city for practical telegraphy. The company named has over a thousand machines in different parts of the city, upon which are printed every few minutes the quotations of stocks in Wall Street through the business hours of the day. The Fuller magneto-electric machine was adopted to operate the wire connecting with these gold and stock indicators. Fuller has studied ever since to improve his generator; but when he had once obtained a generator of reasonable power, he returned to experiments with a lamp. He shunned publicity, and in the obscurity of his little shop toiled for years over his lamp. He was the man best fitted in the United States to attempt a solution of the problem. This inventor evolved a whole system of lightning—the generator, a lamp, and a meter. He proposed to use two large street mains, one of them insulated, disconnected at the outward ends. The positive main was to throw off a branch wire into each building to be lighted, the wire entering the meter, performing a certain service there, and then returning to the street to the negative main. The main

current was not to do the lightning, but it was to generate another current in a series of induction coils, and each lamp was to be lighted by the current from one of these coils. An alternating current was to be used. The induction coils were thus made: Two magnet cores, arranged parallel to each other, were connected magnetically at the ends. Around the centers of each of these cores was a soft iron head, and at a proper distance from this a head of insulating material. The outward ends of the cores were coiled with insulated copper wire, and so connected together and to the main wire (or generator) as to produce two opposite magnetic poles. Between the soft iron heads and the coils were wound smaller coils of insulated wire, the fineness of which would depend on the tension required. To one of the iron heads was hinged an iron arm, so made as to swing over upon the other, connecting magnetically the poles N. and S. In a coil so made, if a current be sent through the main wire rapidly changing in opposite directions, the magnetic cores will change polarity, and the change will induce a current of great tension in the smaller coils, and this second current, if conducted by proper wires to a lamp, will maintain platinum or carbon in a high state of incandescence. Two induction coils, or four, can be coupled together for lights of stronger power. A graduated switch is used in this lamp, so as to permit its brightness to be varied at will. A great many experiments were made with this style of lamp with platinum burners, and they operated admirably. A number of capitalists of Brooklyn, hearing about these experiments, organized a company with 1,000,000 dollars capital last December to adopt Fuller's inventions and introduce his light throughout Brooklyn. A new shop was fitted up for the inventor on Broadway, near 36th Street, in New York City, near his residence, and in this shop Fuller toiled for six months almost literally day and night. His whole system was in a most promising shape, when last February an incident occurred which put a stop to the progress of experiments in household lighting.

The company had determined to manufacture point-to-point lamps and magneto-electric machines first for factory use. About twenty factories in New England and the Eastern States have this winter introduced the large electric lamps of from 700 to 2,000 candle-power into their work-rooms, and the demand for the means of lighting had become very active. The Fuller Company resolved, therefore, to solicit orders from factories, and it had 75 machines constructed, which are being finished up this week for factory use. During the first week of February Mr. Fuller was engaged in perfecting a new point-to-point lamp, and began to be troubled with insomnia. Against the advice of his friends, he worked on his new lamp until it was finished. In the act of tightening up the last screw he fainted and fell to the floor of his shop entirely exhausted, completely worn out with intense mental application and lack of sleep. He was carried to his residence. A week afterward he had recovered so as to be active again. His busy mind had, in the meantime, discovered a new idea in induction. He sent over to the shop for his man George, the foreman of the works, to explain to him the new idea. The two men sat down together, and Mr. Fuller described his idea with much minuteness—the shape of the magnets, the size of the wire, the manner in which the wire was to be coiled on, and so on, motioning with his hands to illustrate his meaning. When Mr. Fuller had finished he said: "George, do you understand that?" The foreman replied that he did. "Now," said Mr. Fuller, "I want you to understand that, George, for it is very important;" and then he went over the matter again, explaining the whole idea, with the mathematical principles involved in it. When he had completed the explanation the second time he said: "Now, George, do you think you understand that?" The foreman said he did perfectly. Mr. Fuller looked pleased, lay back in his chair, and died soon afterward. This was on the 15th of February. The inventor's life had flickered out, quietly, but unexpectedly to both men, and Mr. Fuller, as every one who is acquainted with his plans believes, has departed just at the moment when he was about to become famous and rich. His foreman was of too practical a turn of mind to see the poetic aspect of such an incident, and it is only within a day or two that the facts have been privately obtained by the writer.—*New York Correspondent of the London Times.*

A BARBER on Sixth Avenue has saved himself the expense of a permit by painting the parti-colored bandages of his art on a telegraph pole.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY.

W. J. JOHNSTON, - - - Publisher.

May 1st, 1879.

WESTERN UNION stock is quoted at 105½, and A. & P. at 34½.

We regret that the report of the St. Louis ball reached us too late for publication in this issue. It will appear in our next.

GENERAL ECKERT, at the request of the trustees of the A. & P. Company, has withdrawn his resignation, and resumed the Presidency of that company.

A FRENCHMAN proposes to temper the electric light by using screens of wadding made of glass fibre, and in this way considerably reduces the loss of light.

EXPERIMENTS made with Edison's quadruplex, by the Electrician of the Indian Government Telegraph Department, have, according to the Madras Times, resulted in failure.

THE Western Electric Manufacturing Company has leased the Western Union factory in Church Street, this city, and will hereafter manufacture electrical and telegraphic apparatus in New York as well as in Chicago.

THE cable to connect Port Natal with Aden, spoken of in last issue, will be laid at the expense of and worked as a private enterprise by the Eastern Telegraph company, but with fixed subsidies from the British Government to cover estimated deficit of revenue. The subsidies, the *Telegraphic Journal* says, will aggregate \$250,000 for a period of twenty years. The company will reciprocate by giving a rebate on Government business. The cable will be about 4,000 miles in length, one-half of which is already made, and, as reported in last issue, now on its way to Natal. The cost of the cable is estimated at \$5,000,000.

BUILDING telegraph lines is expensive in South Africa. Three years ago, when a line was constructed to the Diamond Fields, iron poles cost the contractors \$12.50 a piece; and at the present time, wooden ones, delivered 250 miles from the base of supply, in the forests of the Amatola Mountains, cost \$10 each. No. 6 galvanized wire is used in South Africa, though a light compound wire, such as the new "Rapid" company proposes to use in this country, with corresponding lighter poles, insulators, etc., would be vastly more economical, as the transport rates are simply enormous. On the 9th of December last, the rates from Durban to Maritzburg, a distance of 54 miles, was \$77.50 per ton, and it is added that an occasional wagon could at that time be had, as a favor, to take a load to Pretoria, a distance of 450 miles, at \$262.50 a ton.

Removal of L. G. Tillotson & Co.

As announced last issue, and as will be seen from advertisement in the present number, Messrs. L. G. Tillotson & Co. move to-day, May 1st, from the building so long occupied by them, No. 8 Dey Street, to the large double store and building Nos. 5 and 7 same street. In the new building—which is nearly opposite the old quarters, and but four doors west of the great business thoroughfare of Broadway—the firm will have fully double the room it had at No. 8, and this it very much needed, as the business has long since entirely outgrown the capacity of the former building.

In fact the amount of business in telegraphic and railroad equipments and supplies transacted by L. G. Tillotson & Co. would astonish those not familiar with such matters. The firm manufactures for the United States Government the electrical instruments and apparatus used by the Signal Service corps, Government engineers, etc., and supplied, among others, those used in the late excavations at Hell Gate. Electric light apparatus, torpedo batteries, and fine electrical apparatus for torpedo tests and firing, and electrical measurement, have also been made for the Imperial Russian Navy. Some of these latter are now being shipped to Russia, and their superior workmanship and beautiful finish reflect credit alike upon the country and the firm.

In addition to Government and foreign trade the firm supplies large quantities of goods to the Western Union, Atlantic and Pacific, Gold and Stock, American District, and almost every telegraph and railroad company in the United States and Canada, as well as to the two telephone companies, telegraph contractors, corporations, and individuals. It always carries a large and most complete assortment of telegraph construction and maintenance supplies of every description, including line wire and material; instruments; batteries; chemicals; office fixtures; latest improvements in office and line insulation; insulated wires; office, land, and submarine cables for every purpose; all standard and special tools for office, line, and construction work; magneto-electric and electro-magnetic machines for physicians and families; induction or Ruhmkorff coils; electric lights; electro magnets; electric bells; hotel annunciators; fire and burglar alarms; electrical blasting apparatus and fuses, and, in short, any and every telegraphic or electrical instrument apparatus or device that has ever been made. So large and complete, indeed, is the stock carried, that the instruments, batteries, and supplies for the equipment of lines of any length can always be got ready for shipment at a moment's notice.

A new department for the manufacture of materials of every description used in the equipment of telephone and private lines, has recently been established. Line and insulated wire, the new pony insulators, brackets, batteries, switches, call-bells, conducting cords, etc., are always on hand in large quantities.

Besides the above the firm does a very extensive business in railroad supplies, including every article that is used on a railroad, from the grading staff and transit to the pick and shovel, together with every tool for making any machinery, or for the company's workshops. Car trimmings in iron, bronze, silver, nickel plating and brass, as well as every item in the hardware line necessary to the finish of freight and passenger cars are manufactured at the New Haven Car Trimming Works, New Haven, Conn., of which Messrs. Tillotson & Co. are proprietors. Car head linings are made at their own factory in the same city, the New Haven Car Head Lining Works. The firm has also a controlling interest in the New Haven Car Works, of which General Greeley, of the firm of L. G. Tillotson & Co., who lives in New Haven, is managing

director. The factory for the manufacture of telegraphic instruments, machinery, etc., is at Nos. 139, 141, and 143 Centre Street in this city, and has a capacity of over a hundred men.

Messrs. Tillotson & Co. are sole agents in this country for the celebrated wire of Richard Johnson & Nephew, of Manchester, England. The superiority of this wire lies in its great length between joints, tensile strength, superior galvanizing and perfect conductivity. They are also agents for the Leclanché, Lockwood, Hill, nitro-chromic, and other batteries, and proprietors of the well known Watson battery. It might be here mentioned, parenthetically, that a considerable reduction has recently been made in the price of the Laclanché battery. The disque, complete, is now sold at \$2, No. 1 at \$1.80, and No. 2 at \$1.65. Former prices, \$2.50, \$2.25, \$1.25 respectively. They are agents, too, for Bishop's insulated wires and cables, Cauvert's screw glass insulators, Brook's paraffin insulators, American compound wire, etc. The firm also builds and equips private lines with Morse, printing, or dial instruments, or with telephones, and puts up electric bells, hotel annunciators, fire and burglar alarms. Telephones are made for both the telephone companies, magneto call bells, switches, etc., for telephones are also manufactured in large quantities.

The senior member of the firm, Mr. L. G. Tillotson, has been connected with the telegraph business all his life, having been a superintendent and contractor before engaging in his present vocation. At the age of 17 he was made Superintendent of the Erie telegraph, which position he retained for 16 years, and was the originator of the railway telegraph system which has been almost universally adopted and continued to this day. In 1862-3 he built the lines of the U. S. Telegraph Co. from Buffalo west to Cincinnati, Chicago, and Milwaukee, and afterward those of the Western Union between New York and Buffalo. Mr. Tillotson is also connected with other telegraphic enterprises, and among other things is president of the Gamewell Fire Alarm Company, the head office of which is in the same building.

CONSIDERABLE opposition has, naturally enough been developed by the existing Atlantic cable companies to the laying of the proposed Pouyer-Quertier French cable. The chairman of the Direct Cable Company says that the stock of his company is selling at about 50 per cent. below par, and thinks that the stock of the new enterprise will not be likely at least to fare much better. He therefore entreats capitalists not to invest in the new scheme. The moment the cable is laid, he says competition will arise; a 25 cent., possibly a 12½ cent., tariff may be adopted, and, although there might be a diminution in the old company's receipts, the new company would be prevented from paying one shilling to its shareholders. There is no necessity for the new cable, he adds, seeing that the Anglo-American and Direct cables have both been duplexed. The chairman of the Anglo-American, as was to have been expected, is also opposed to the scheme. He thinks the old companies have advantages which the new company will be unable to prevail against. The Anglo-American company and its colleague, the Direct company, he says, have, by special agreements, the right to bring almost every message which crosses the Atlantic from America to Europe, and they have priority in, he believes, all European countries over any other company; that is to say, the governments of all European countries, France included, are bound

to send all messages transmitted to them by these two company's lines, unless the sender directs to the contrary. It seems that it is offensive to the susceptibilities of the French people, to their national pride, that telegraphic communication with America should be in the hands of foreigners. The shareholders of the Anglo-American company have given the Board of Directors free power to form a French company for the purpose of working the existing Brest and St. Pierie and Duxbury cable. This is proposed by the Anglo-American as "a cheaper method of satisfying their (the French) *amour propre* than investing a couple of million pounds (\$10,000,000) in an undertaking which could never pay them anything."

Mr. Edison's friends have been rather disappointed in the delay that has taken place in perfecting the electric light. The public had got it into its head that Edison could accomplish about anything he undertook. He, however, failed in deadening the noise made by the elevated railroad, and now, after repeatedly assuring us that we were on the threshold of a great revolution in artificial lighting, to fail in rendering the electric light practical and cheap, would greatly shake public confidence in "the sage of Menlo Park." One of Mr. Edison's greatest mistakes is in announcing what he is *going* to do. 'Twere more judicious to *do* it, and make the announcement afterward; for should he fail, the prior announcement and the expectation of the public would only add to his chagrin. Mr. Edison, however, is still hopeful in regard to his scheme for an electric light. He is quoted as saying in response to a question as to the progress he has made: "Well, I am, as you might say, noncommittal on that point; but if there is anybody hereabout for whom you entertain a particularly vicious spite, unload your gas stock on him, and be quick about it, too. Further than that I have nothing to say."

THE German Government is about to introduce a system of subterranean telegraph wires in that country. Two lines—to be completed according to present arrangements, in a year and a half—are to traverse the empire diagonally; the one running from northeast to southwest, from Konigsberg to Strasburg, the other from northwest to southeast, from Hamburg to Ratibor, a town in the extreme south of Silesia. These two main lines will cross one another in Berlin. In the west of the empire a subterranean telegraph will run in a curve from Strasburg through Cologne to Hamburg; in the east another line will connect Konigsberg with Ratibor; and, finally, a cable will traverse Southern Germany, running generally east and west, though apparently the exact route for this last telegraph has not yet been definitely decided upon. When the proposed system is completed, therefore, all the fortresses and commercial towns of any importance in Germany will be connected with one another by subterranean wires. The cable first laid down, that from Berlin to Halle, has been satisfactorily subjected to the severest scientific tests.

EXPERIMENTS were recently made with the electric light on the Holborn Viaduct, London, for sixty-four nights. From the report of Colonel Haywood, the engineer, it appears that sixteen electric lamps were lighted at a cost of \$25 a night, averaging seven hours. This is at the rate

of about twenty and a half cents an hour per lamp. Gas lamps on the Viaduct only cost a trifle over half a cent an hour. The cost of lighting the whole Viaduct by electricity is computed, on the above basis, to be about \$3.70 an hour, and by gas fifty cents; or, for a night of fourteen hours, \$50 for electric light, and about \$6.80 for gas. At these rates electric lighting would cost \$15,360 a year, and gas lighting \$2,095. This shows the electric light to be about seven and a half times as expensive as gas; but Colonel Haywood estimates that its illuminating power is about seven times that of gas.

THE suit instituted some months ago by Mr. Williams, an ex-operator of the Sacramento office, against the Western Union Telegraph Company, has resulted in a verdict against the company for \$3,750. Readers of THE OPERATOR will remember that Williams had been discharged from the Sacramento office on purely personal grounds, and afterward sent a regular paid message to General Superintendent Gamble, which never reached that official. Williams then brought suit against the company for suppressing the message, claiming \$10,000 damages. After much delay, the trial was concluded, April 14th, with the above result. The foreman and several others of the jurors were in favor of awarding the full damages. The defendant obtained a stay of proceedings for thirty days to enable it to move for a new trial.

In calling attention to the advertisement of the Health Food Company, in another part of this issue, we would say that these foods are very highly spoken of by all who have used them. To those who wish to keep in good health, and avoid medicine, the foods will be peculiarly welcome. Any of our readers who have used the foods are invited to send their opinions of them to the Health Food Company, 74 Fourth Avenue, New York.

THE telephone has been successfully employed for several months on the Magdeburg and Halberstadt Railway in Germany, and the German Government has requested the owners of all the private lines in the Empire to try if the new means of communication cannot be used, instead of the ordinary apparatus, for telegraphic signaling in working the traffic of their road.

Referring to the article in the *London Times* declaring the Edison electric light a failure, the *Electrician* says: There is no present need for gas shareholders to be alarmed. The electric light cannot economically, as now maintained, compete with the street lamps giving the ordinary light, nor can it compete with gas in small rooms in ordinary houses. The future of the electric light, however, is a grand one. It can immediately replace gas in large spaces, and where a good light is of importance. We have wondered, again and again, why it has not been introduced into our theatres by enterprising managers, but confess we can find but one answer to the question. The managers owe too much to the fair sex to admit them to the searching glare of the electric lamp. Powder, paint, and tinsel would be too conspicuous, and, instead of aiding beauty, would cause the artificial glosses to be distressingly evident. In railway stations, among shipping, at wide and well-used crossings in our streets, in factories where exactness is required, where much depends upon the use of true color, these are places where an immediate, advantageous, and economic use can be made of the electric light.

Themes for the Thoughtful.

Truth is often wounded, but never slain outright. Attention to small things is the economy of virtue. The scales of justice are for the weight of the transgressor.

Employment is nature's physician, and is essential to human happiness.

Strength of mind depends upon sobriety, for this keeps reason unclouded by passion.

Human things must be known to be loved, but divine things need to be loved to be known.

Cities force growth, and make men talkative and entertaining, but they also make them artificial.

Human life defined by a line is as uncomfortable as would be the human figure defined by a wire.

Friendship is the medicine for all misfortunes but ingratitude dries up the fountain of all goodness.

The object of all ambition should be to be happy at home. If we are not happy there, we cannot be happy elsewhere.

Tears are the gilt which love bestows upon the memory of the absent, and they will avail to keep the heart from suffocation.

Ignorance, when it is voluntary, is criminal, and he may properly be charged with evil who refused to learn how he might prevent it.

All skill ought to be exerted for universal good; every man has owed much to others, and ought to repay the kindness that he has received.

Virtue and vice are not arbitrary things; but there is a natural and eternal reason for goodness and virtue, and against vice and wickedness.

Contentment is a pearl of great price, and whoever procures it at the expense of ten thousand desires makes a wise and happy purchase.

Mortality is an event by which a wise man can never be surprised; we know that death is always near, and it should, therefore, always be expected.

How many useful hints are obtained by chance, and how often the mind, hurried by her own ardor, to distant views, neglects the truths that lie open before her.

Pride is seldom delicate; it will please itself with very mean advantages; and envy feels not its own happiness, but when it may be compared with the misery of others.

Knowledge cannot be acquired without pain and application. It is troublesome, and like deep digging for pure waters; but, when once you come to the spring, it rises up to meet you.

Never be sorry for any generous thing that you ever did, even if it was betrayed. Never be sorry that you were magnanimous, if the man was mean afterward. Never be sorry that you gave. It was right for you to give, even if you were imposed upon. You cannot afford to keep on the safe side by being mean.

We can hardly imagine the possible dignity and value of our lives, unless we consider their probable bearing upon other lives. A word of cheer, an act of passing kindness, a trifling sacrifice, may be just the help required to give vitality and permanence to good resolves which lead to high endeavor and to generous action.

Every condition in life has its advantages, and its peculiar sources of happiness. It is not the houses and the streets which make the city, but those who frequent them; it is not the fields which make the country, but those who cultivate them. He is wisest who best utilizes his circumstances, or, to translate it, his surroundings; and happiness, if we deserve it, will find us, wherever our lot may be cast.

A cultivated mind may be said to have infinite stores of innocent gratification. Everything may be made interesting to it, by becoming a subject of thought or inquiry. Books, regarded merely as a gratification, are worth more than all the luxuries on earth. A taste for literature secures cheerful occupation for the unemployed and languid hours of life; and how many persons, in these hours, for want of innocent resources, are now impelled to coarse pleasure? How many young men can be found, who, unaccustomed to find a companion in a book, and strangers to intellectual activity, are almost driven, in the long dull evenings of winter, to haunts of intemperance and bad society?

Telegraphing by Reflection.

The idea of mirror telegraphing is no new one. So long ago as September, 1875, we discussed at some length the advantages likely to accrue to the science of military telegraphy by the invention of a portable heliograph by Mr. H. Mance, of the Government Persian Telegraph Department. We then remarked on the antiquity of the idea. For centuries the rays of the sun have been utilized for signaling purposes. It is said that the fleet of Alexander the Great was guided along the Persian Gulf by means of mirrors. The North American Indians on the prairies carry on signaling by means of sun flashes, and the Russians adopted a similar method at the siege of Sabastopol. In this climate, where sunlight is capricious, such a system could not be relied on; but in more tropical climates its utility is obvious. Even in England, however, Col. Colley, R. E., and Capt. Drummond, of the same corps, designated an instrument called the heliostat, which consisted of an adjustable mirror worked in connection with a combination of telescopes. By its means triangles with sides over 100 miles in length were actually laid down in the Ordnance Survey of the United Kingdom. The heliostat, however, did not admit of a conversation being carried on.

The Mance heliograph is an apparatus designed for the transmission by reflection of the sun's rays. The signals made by it are visible, under favorable conditions of position and atmosphere, practically to an unlimited distance, and have been read as far as 80 or 100 miles. It consists of a specially-prepared mirror, with ingeniously-constructed adjusted mechanism for reflecting the sun's rays with absolute precision to any required spot, notwithstanding the sun's apparent movement. By the pressure of a finger-key the flashes are made of short or long duration, thus adapting the instrument to the Morse code of telegraphy. A second mirror is provided to permit of signaling being carried on irrespective of the sun's position. The instrument intended for field service weighs from six to eight pounds, and is mounted on a light tripod stand. The working parts are protected from injury during transit, and the complete apparatus admits of being easily carried, as it is also efficiently worked, by one man.

The apparatus has been in use for some time in India, where its working has been attended with very great success. Major-General F. S. Roberts, now commanding the Kuram column of the Afghan expeditionary army, when Quartermaster-General in Bengal, reported most favorably on it, and at his recommendation Lord Napier of Magdala directed a number of heliographs to be issued to the sappers and miners at Roorkee. The instrument stood the test of peace manoeuvres. It was not until the winter of 1877-8 that the Jowaki Afridi expedition gave the Indian Government an opportunity of submitting it to the real test of war. The two columns operating in the Afridi Hills were supplied with volunteer signallers—Major Noel Money, of the Third Sikhs, acting with General Keyes; Captain Wynne, of the Fifty-first Light Infantry, with General Ross. The instruments were simply invaluable, and so strongly did the authorities report in their favor that on the organization of the Afghan expedition heliographs were supplied to each division. Reference has been repeatedly made in the letters of our special correspondents, as well as in the dispatches of the Generals commanding, to the inestimable value of the instrument. With General Donald Stewart's column telegraphic communication was maintained by means of the heliograph from the Khojak Pass to Girishk. General Roberts, from Khost, flashed his messages to the fort at Bannu, a distance of 60 miles; while Sir Samuel Browne, from the height above Ali-Musjid, announced the capture of that fort to the expectant garrison of Peshawar by means of the Mance heliograph. While we in India have been utilizing the instrument, other nations have not been slow to avail themselves of Mr. Mance's admirable invention. The Spaniards use it largely, and last month a series of experiments was conducted by which Madrid was placed in communication with Ceuta and Algeciras by optical telegraphy. Owing to the difficulties experienced in maintaining electric cables across the Straits of Gibraltar, orders were issued, on the completion of these experiments, for the permanent establishment of heliographic communication between Tangier, Tarifa, Ceuta, and Algeciras, and arrangements are in progress for its employment between different outlying West Indian islands not connected by cable. The United States Government have adopted the heliograph in their army, and it is in use in France and Belgium.

For some reason the instrument was unfavorably

reported on at Chatham, and consequently its introduction into the home army has been retarded. It is vain to cast idle regrets over the past, but there is no doubt that had visual signaling, either by the heliograph or by flags, been adopted in South Africa between Rorke's Drift, Insandlana, and the advanced camp, the disaster of the 22d of January would never have occurred. We believe that Lord Chelmsford was not in the possession of these valuable auxiliaries to bush warfare at the commencement or the campaign. Now, however, the omission has been remedied. Several instruments were issued to the regiments which left England in February, and Mr. Goode, Mr. Mance's agent in this country, personally instructed the officers and men in their use. The telegraph troop of Royal Engineers, which embarks to-morrow, carries with it heliographs of various sizes, from the small instrument that can be carried on the saddle, weighing but eight pounds, to the large mirror with a 10-inch diameter for permanent stations. Although the heliograph can never supersede either the electric wire or the flag, it can be used in situations where neither of these would avail, and consequently it may be looked on as an invaluable adjunct to modern military equipment.—*London Times*.

Spring Meeting of the Western Union Operators.

The Western Union athletes held their spring meeting at the grounds of the Manhattan Club, Eighth Avenue and Fifty-sixth Street, on the afternoon of April 17th. A steady rain did much to mar the sports, and kept many friends of the contestants away, though the stand was fairly filled, among the number being several ladies. The programme comprised seven events, six of which were decided. A handicap run of one hundred yards, with two trial heats and a final, opened the games. In the first trial four out of five entries were found at their stations, F. E. Wilcox, 12 feet start, won in 11½ seconds; W. Richmond, 8 feet, was second; P. J. Tierney, 20 feet, third, and D. C. Donohue, 8 feet fourth. The second trial brought out three of five entries. D. B. Mitchell, scratch, passed the tape well in front in 11½ seconds. A. J. Voyer, 12 feet start, was second, and W. J. Landy third. The final heat sent Mitchell, Wilcox, Voyer and Richmond on the track. Mitchell caught his men without difficulty, and won with something in hand. Time, 11½ seconds. Wilcox was second, Voyer third, and Richmond last. First and second prizes were awarded. As Mitchell was put back one yard for making a false start, he actually ran 101 yards.

The one mile walk, level, had nine contestants. These were J. P. Bradt, L. E. Weller, E. F. Welsh, E. A. Leslie, J. J. Mather, J. M. Finger, G. A. Scott, C. J. Power, and J. Elliott. Bradt won in 8m., 33½s.; C. J. Power was second in 9m. 3½s., and J. Elliott third. The three prizes offered were awarded in this manner. Mr. Leslie and Superintendent Weller were ruled out for running. The latter gentleman wore a butcher's checked jumper, and was vigorously applauded.

The three mile handicap walk, with first, second, and third prizes, was next in order. Four, of ten entries, responded. T. Kane, with 2m. start, proved the winner in 27m. 07½s., actual time, and D. C. Donohue, scratch, finished second, in 25m. 48½s., actual time. The contestants were repeatedly cheered by the spectators.

Although four were entered in the half mile run, H. Wiese "walked over" in 2m., 39s.

Five miles, "go as you please," next engaged attention. Nine started. These were R. A. Empey, W. A. Waycott, F. E. Wilcox, J. W. McLaren, C. E. Davis, M. Durivan, J. J. Mather, P. J. Tynan, and T. Martin. Empey retired soon after starting, and McLaren followed his example at three miles and a half. All that finished ran most of the way. Durivan, not seeming to mind the rain in the least, quickly went to the front, and remained the leader to the end. His last lap was covered at a rattling pace. Time, 31m., 22½ s. Waycott took second place early in the race, and never relinquished the position. He finished in 33m. 05½ s. Tynan was third in 35m., 15½ s.; T. Martin, fourth, 35 m., 42½ s.

A three-legged race of 100 yards wound up the games. D. C. Donohue and J. P. Bradt beat W. J. Landy and G. D. Merrill handily in 18½ seconds. The latter fell within twenty yards of the tape.

The tug of war, twelve men a side, arranged between the day and night operators, did not take place, owing to the muddy nature of the ground. Messrs. Welsh, Mitchell and Wiese were the Committee of Arrangements.

A noticeable sprinkling of "old timers" were present, among them Jerry Borst, who antedates by several eons the oldest telegrapher in the United States. Four of the finest police force in the world preserved order.

The "Rapid" Company's Opinion of the Quad. and Duplex.

In the pamphlet of the "Rapid" Telegraph Company before alluded to in these columns, the promoters of the new enterprise deplore the noticeable absence of applied mechanism in connection with telegraphy, "which during a quarter of a century has grown in this country from a few thousand messages to more than twenty-five millions, and from a few hundred thousand dollars to more than \$25,000,000 per annum. And yet with this immense business and princely revenue which, in the face of extortionate rates of tariff, doubles itself about every five years, the operation of telegraphing is essentially the same to-day in all but a few unimportant particulars as originally conceived in the brains of its great inventors, Henry and Morse." The said promoters do not regard the duplex and quadruplex inventions with much favor. They say: Of the large number of so-called improvements in telegraphy during the past quarter of a century, it can hardly be said that anything of signal importance has been devised for cheapening the cost of telegraphing in its chief item of cost, labor—while in the second great item of cost, capital, as represented by lines and systems—the most that can be claimed is a device first used on the Franklin (Boston and New York) Line, about 1867, called the duplex system, by which, with four superior Morse operators, a message, from each end of a wire, could be telegraphed, simultaneously, say from and to New York and Boston (but not to or from any intermediate office, as could be done at pleasure by the simple Morse system).

Thus, then, at most, and especially considering the necessity for employing superior Morse operators, and the impossibility of telegraphing from either end to intermediate stations, the most that can be fairly claimed for the Duplex system is the possibility of telegraphing fifteen hundred words per hour, over one wire, by the aid of four high salaried operators, in place of one thousand words by the regular Morse system, and the aid of two operators. The economy of the duplex over the regular Morse system is nominal rather than real.

The much over-rated quadruplex system, by which it is possible to transmit by hand key process two messages from each end of a telegraph wire simultaneously, by the aid of eight extra superior operators, was developed by the W. U. Co. in 1873-4, under the immediate supervision of the electrician of the company, to whom one-half ownership of the patent was given by the inventor.

No person of real intelligence outside of those who control this invention inside the W. U. management, or whose dependent position in the electrical or operating department forces them to find merits in the system which have no existence, except in the interested imagination of the electrician-in-chief, ever did or ever will be able to point out even a glimmer of rational hope that telegraphing could possibly be cheapened by means of the quadruplex system. It is deemed necessary only to add that the system, after the fostering care of the electrician-in-chief of the W. U. Co., who claims to have now a princely revenue in the way of a royalty from the company for its use, and claims also to see in the near future as much as one hundred thousand dollars per year of royalty, from this quadruplex invention, and after the most lavish expenses of the company for four or five years is still an exceedingly complicated and expensive toy, the operating of which costs the W. U. Co. full 33 per cent. more to complete one day with another through the year a given volume of telegraphing than it would do the same by the regular Morse system.

What is claimed for the quadruplex is the ability to telegraph from the two ends (only) of a wire—say to and from New York and Boston—two messages, simultaneously, by the aid of eight extra superior operators, an extra wire three sizes larger than is required by the Morse system, and with such an enormous battery as to almost paralyze, by its inductive influence, the regular Morse wires upon the same poles.

And with all these exceptional advantages, the most that can fairly be claimed for the system, one day with another, is a transmitting power or capacity of about 90 to 100 messages per hour, or about 24,000 words per day of eight hours.

It is within the truth to say that one-half of the eight extra superior operators placed at the two ends of two equally good wires, with like overpowering batteries, would, one day with another, the year through, complete, by the simple Morse system, more telegraphing, and do it far more accurately and reliably than the whole eight operators could hope to do with the exceedingly complicated quadruplex system.

These two improvements in telegraphy—the duplex and quadruplex systems—their history and possible achievements fairly stated, but a small fraction only of the scandal or fraud by which the two systems were foisted upon the W. U. Co., and have since been maintained in the face of the undisguised displeasure of some of the most intelligent and practicable members of the directory—constitute all that is known to the world as the contribution of the W. U. Company toward the development of means and appliances for cheapening and improving facilities for the telegraph correspondence of the country.

Outside of the development of the duplex and quadruplex systems, the mission of this great company has been to break down or buy up competing telegraph companies, at the same time forcing from the unwilling public, through extortionate rates of tariff, large dividends upon its inflated and largely fictitious capital.

A Telegraph Operator's Romance.

SCENE—On line of Union Pacific Railway, from Bryan to Ogden.

CHARACTERS.—A gentlemanly young telegraph operator and former station master of the U. P. R. R. A beautiful brunette of seventeen. A stern and unyielding parent. Supernumeraries to fill the plot.

Some months ago a very worthy young man named Ralph Phillip, filled with credit to himself, and satisfaction to his employers, the position of Station Master at Peterson, on the Union Pacific Railway.

Peterson is a neat little village nestled in one of those cosy valleys of the Wahsatch range, where the snows of winter cap the lofty mountain peaks, while the fresh verdure of spring covers the little valley, and the pure mountain air is redolent with the aroma of blooming spring.

In this peaceful and lovely retreat, amid the towering walls of the rugged range, lived a fair and modest maiden, named Amanda Colburn, whose brunette beauty and many lady-like qualities were quietly admired by all the denizens of the valley.

Ralph, who has added to all the culture and refinement of a thorough gentleman the vim and dash which a man is sure to acquire by a long residence in these western wilds, met, wooed, and won this fair damsel of the mountain pass. Then and there were

"Two souls with but a single thought,
Two hearts that beat as one."

"Eyes looked love to eyes which spake again, and all went merry as a marriage bell," until the young lady's papa discovered the tendency of affairs, then trouble commenced, and the course of true love, as usual, would not run smooth.

The father loved his daughter: she was his darling and pride; but he was ambitious. He had intended her to be the happy and proud wife of a Bishop in the Mormon Church, and could not endure the humility of seeing her sacrificed to the tender passion of a station master.

About this time, for some reason best known to the railroad officials, Ralph was relieved of his position in Peterson, and sent to Bryan, where he has since been employed as telegraph operator. This change was highly satisfactory to the young lady's father, who now felt that he had nothing to fear as to his daughter's future alliance. Still the young people kept up a very quiet but frequent correspondence.

Last week Ralph received word from the young lady that her father was insisting upon her marrying the Bishop, and was about to take her down to St. George for that purpose.

An elopement was soon planned between the young couple by letter, and on last Saturday Ralph passed through this city on the western bound express train. Stopping in Peterson until after dark, he cautiously approached the house, and helped his lady love out of a window, as had previously been planned, she, in the meantime, having taken a vicious dog, which her father had on the premises, off to a neighbor's lot, and chained him fast.

They boarded train No. 9 as it came along, tele-

graphed to Ogden for a justice of the peace to meet them, and were married as soon as they arrived at the depot in that city.

We are told that the old gentleman followed them to Ogden, but arrived too late to do any harm, and that a reconciliation between the contending parties has since been effected.

May a long life, good faith, love, prosperity and posterity follow this impromptu union!—*Union Chief, Evanston, Wyoming Territory.*

The Heliostat in War.

Mr. H. Baden Pritchard contributes to *Nature* an interesting account of the use made of the heliostat by the English in their campaigns in Afghanistan and Zululand. It is claimed that this is the first application of the mirror as an implement of warfare. Heliostat stations, says Mr. Pritchard, are now established throughout the Khyber Pass, and General Sir Samuel Browne, at Jellalabad, has his orders passed up to him by flashes of light from Peshawur and Ali Musjid. Lord Chelmsford has of late also been furnished with heliostats, in order to provide him with better means of communication along the Tugela. The plan of working is very simple. The mirror of the heliostat is placed so as to reflect the sun's image to a distant station, and when the instrument has once been set the clock-work arrangement suffices to maintain the mirror in its proper position. In this way the distant station in question always sees the dazzling ray reflected from the mirror, except when the latter is purposely obscured. The appearance and disappearance of the bright spot or flash constitute the signals. There is no need for any superintendence when once the apparatus has been put in working order, and a trained signaller suffices for the duty. The ordinary Morse alphabet supplies an intelligible code, and no one out of the line of signals can read or understand the message. As a substitute for the dot and dash, which go to make up the ordinary written Morse code, the light is shown for short and long intervals; thus the light shown for a short period followed by a long period signifies A., while B. is represented by a long period followed by three short ones; in the case of C, long, short, long short signals are made in turn, and to form E, the letter most frequently used, the light is permitted to shine for one single short period only. The intensity of these sunshine signals can scarcely be imagined by any one who has not seen the heliostat in working order, and the distance to which they might be made to travel, could suitable stations be provided, is practically unlimited. The appearance or non-appearance of the light can be noticed at ten or twenty miles distance without the aid of telescope or field-glass.

Baltimore Telegraph Messengers as Federations.

An interesting go-as-you-please race between a trio of messengers of the American District Telegraph Company, and three belonging to the Domestic Company recently took place at the Maryland Institute, Baltimore. There was a large attendance of spectators, and much enthusiasm. The rush continued for eight hours, and at the close the score stood: Connors, American District, 40 miles and 9 laps, winning first prize, a gold medal, and \$10 cash; Gorsuch, Domestic, 39 miles, and 5 laps, second prize, \$10; Cahill, American District, 37 miles and 14 laps, third prize, \$5; White, American District, 37 miles and 10 laps; Gentry, Domestic, 35 miles and 3 laps; and Bateman, Domestic, 29 miles. Speaking of the race, a local paper says that Gentry, who was aptly termed "the little giant," displayed speed and endurance that were truly wonderful. Being little more than half as old and large as his competitors, his record was surpassingly good. His gait was natural, and he was compelled to make two steps to one on the part of any of the other contestants. The most surprising feature in connection with his exhibition, however, was the fact that he ran nearly the entire eight hours, and that he was distanced by any was purely the result of difference in size, and the shortness of his legs. During the afternoon and evening Gentry's father and mother were present, and cheered their little son in his efforts. Mr. Gentry is manager of the Atlantic and Pacific Telegraph office, No. 65 Exchange Place, in which his son is messenger. The lad is a fine looking little fellow, and remarkably intelligent. He has been a messenger for the past year, and his father proposes returning him to grammar school

again. A small purse was made up for him at the close of the match.

We learn that the "President" of the Domestic Company, Wm. A. Dunn, an operator in the A. & P. branch office, discharged the Domestic boys who participated in the race. He claims that it was done on "high moral grounds," but his action is generally criticised.

Dashes Here and There.

In a recent report of the "Thunderer"—British man of war—committee, it is stated that "a considerable proportion of miss-fires take place when broadsides are fired by electricity."

Westinghouse, the air-brake inventor and manufacturer of Pittsburg, is in London. The seventieth anniversary of his father's birthday occurred recently, and the absent son cabled a gift of \$5,000 to the paternal home in Schenectady, N. Y.

On Friday, the 28th ult., between eleven o'clock and noon, no fewer than 215 messages, averaging thirty words each, were disposed of on a single wire—London and Birmingham—by means of the quadruplex. The number, we believe, is unprecedented in the history of telegraphy.—*Electrician.*

According to documents which have recently been published, the differences of the speed with which electricity travels in overland wires and submarine cables is enormous; the speed in a wire suspended in the air being about 22,400 miles per second, and in a submarine wire only about 2,500 miles.

At the meeting of the Electrical Society of the Ohio Valley, April 24th, Mr. James Powell read a paper upon induction coils, and exhibited a large coil wound on the Ruhmkorff plan, from which he got sparks several inches in length, and succeeded in making a very effective display of its powers.

S. M. D.

The Western Union Telegraph Company has raised again the issue of strict privacy for telegrams, and has appealed from an adverse judicial decision given at St. Louis. The prospect is that this important question, which the company is apparently so anxious to test, will be pressed to a final settlement.—*Tribune.*

It wasn't an operator, but a representative at the Capitol, who, when one of his constituents began to waver in a certain necessary course to be followed, sent him word to "Stand firm," which he did. If all messages were sent as they are written, there would be furmore mistakes apparent than there are at present.

John Stetson is fearfully and wonderfully profane. Recently John Perfunctory Smith telegraphed him in Boston: "Am forming a new Pinafore company. What salary do you want to play Dick Deadeye?" Stetson's answer was characteristic: "The telegraph company have refused to transmit my answer.—*Dramatic News.*

An ingenious apparatus, intended to reproduce telegraphically at a distance the pictures obtained in a camera obscura, has, says *Galignani*, recently been invented by M. Senlecq, of Ardres. The principle on which it is based is the property possessed by selenium of presenting a very variable and very sensitive electrical resistance according to the different gradations of light.

The telephone is beginning to misbehave itself. A telephone wire in Chicago, the other day, began a flirtation with a steak of lightning, and the offices at each end of the wire were entered by the lightning and the furniture destroyed. If a person were to get a streak of lightning emptied in his ear while listening at the telephone, it would be very apt to embarrass him.—*Detroit Free Press.*

The telegraph troops sent out to South Africa by the British Government were the right half of the C Company of Mounted Royal Engineers, consisting of Major A. C. Hamilton, four lieutenants, nine sergeants, 163 privates, 109 horses, and 13 wagons. On arrival at the seat of war the engineers will form the Land Transport and Telegraph Corps, and will be placed under the command of Major Hamilton.

The Pittsburgh *Telegraph* of April 5 says: "The alarm of fire early this morning came over the wires of the District Telegraph from the clerk of the Robinson House to the main offices, First National Bank building. From there the alarm reached the Neptune Engine House so promptly that she was at the scene of the fire between three and four minutes before the signal was sent in on the Fire Alarm Telegraph."

Echoes from 197, and City Items.

Misses Pearson, Breier, Lavine, Monaghan, and Shaut were present at the athletic games, April 17th.

The great family jar is ended; the legal fees have been paid, and the economical tension is at last relieved.

Hush, gentlemen! the talented young Vice-President has got an idea, and another quarter has been saved toward the payment of the next dividend.

The "stalwarts" in the office have been re-inforced by Les Bradley, Bob Martin, and McLaren Campbell. John Lenhart is expected hourly from Chicago.

James P. Bradt of 197 Broadway, desires the address of Burt Allen who worked as operator in the A. & P. office, Chicago, in 1877, and who previously was a superintendent of the U. S. Telegraph Company.

Mrs. Fraser has returned to the "loving arts as knows how to wally of her," and works on the Boston quad. Miss Doubleday has returned after a three months' vacation. Miss Connie Whitehorn works the post-office wire.

When a man of brains and business capacity is at the head of a concern, his staunchest supporters and admirers will be men of like calibre! so, also, when a nincompoop is unfortunately hoisted into a like position, his warmest admirers will be sycophants and hypocrites. The reader can apply this to suit himself.

Ladies respect those whom circumstances have favored, and do not smile at them in derision. It is much better to suspend the outward expression of your contempt, and thereby avoid being suspended yourselves. Spite is always contemptible, and is likewise tyrannical, when manifested by those having a little power.

"Send me fifty pounds of Cologne," then she paused a moment, and after a more critical glance, said he had better make it "Bologne." He readily assented to the wisdom of this course, and, as they had been at it steadily for about two hours, she thought she had scent enough, and proposed that they should get relieved for recuperation. She had just strength enough left to enable her to utter a feeble consent to this.

A member of the A. D. T. night force, who has by hard study raised himself to an amiable position there, is somewhat eccentric in the matter of spells. He was going to send a letter to a correspondent at St. Louis, not a great while since, and after getting his pen ready, and paper in order, he began by: "I say, Charley, how de ye spell sent Lucy? De ye spell it Lawis, like a mans name? or Luis?" Chawles said he was not much on conundrums.

A battalion of American District messengers will take part in the parade of the G. A. R. on Decoration Day. The Grand Marshal, Graham, writing to the president of the A. D. T. Co., says: One of the most prominent features of the parade last year was the appearance of the American District Telegraph Company's boys in the line. Their fine appearance, no less than their soldierly bearing, called from the people that approval which must have been alike gratifying to you and to themselves.

"Should auld acquaintance be forgot," Summer meeting, 1879—Western Union Stalwarts.

First race (New York to Chicago), winners of \$25 to carry 5 lbs. extra. A. S. Downer enters ch c Campbell by impecunious, out of Sliding Scale, (allowed 6 days)—walked over.

Second race (Chicago to New York) with customary allowances (by Pennsylvania Railway Co.), winners of the Palmer House stake, and Grand Pacific cup to pay extra postage. Pierre Lorillard's brg John Lenhart by Fond Recollections, out of Square Meal, (14 lbs. overweight)—1

The American District Telegraph Company's policemen enjoy a great reputation for their "bouncing" proclivities. It is said that Assistant Manager Spotten, of the Forty-first District, can run a mile on a police call, and "bounce" a tramp inside of five minutes. He is always on the alert, eager for a chance to exhibit his courage and daring. An instance of this kind occurred recently, when he responded at an unseasonable hour of the night to a police call from the residence of an aged widow lady who had called assistance suspecting burglars upon the premises. Not daring to venture down stairs, the lady directed Spotten to enter the parlor, where, by the glimmer of a faint light Spotten saw his own image reflected in a mirror. Without entering into a preliminary examination,

Spotten took same to be his deadly enemy, and without further ceremony proceeded to use his club upon the said individual in Capt. William's best style. The great problem upon the minds of the A. D. T. officials is, "who is going to pay for the expensive mirror?"

The following is a *verbatim* copy of a letter recently received by a gentleman whose office is prominently situated on Broadway, and partly accounts for the number of excellent artists that have of late years entered the ranks. It also shows the peculiar fascination the tapping of the key has for the youthful mind:

NEW YORK March 28

DEAR SIR

I am a young man fourteen years old & i have often saw you to work throw the winder & i have stood & looke & watch to see you to work for a good many times & i would like could i learn too telegraf if you could give me a chance could i learn the telegraf business i have work in a dry good store runn harrunts i would would work very cheap at first becose i do live to home if you will please to have me learn i will call to see you imiegraly please wright me a answer
yours respectfully

PERSONALS.

E. B. Rock is agent and operator at Griffinville, N. C., C. C. Railway.

There is a letter at the Mount Vernon, O., office for Mr. Joe Howey, who left that place about April 1st.

Mr. C. T. Sydnor, from Petersburg, Va., has been added to the force at Wilmington, N. C. He is very much liked in the office.

The telegraph office at Abbeville, S. C., with the express and railroad offices in the depot, is connected with "up town" by a telephone line running into the Central Hotel.

P. L. Van Cleve has been put on as night operator at Minneapolis Junction, St. Paul and Pacific R. R. John Van Cleve as night owl at Delano, N. Whittaker as day man at St. Paul shops, and W. F. Beckman nights.

Mr. E. F. Riddick, late of Augusta, Ga., office, has been placed on the regular force at Charlotte, N. C. The reduction of force at Augusta March 1st left Mr. R. out of employment, and his many friends rejoice at his deservedly good fortune.

On Tuesday April 15th, while the eastern freight on the St. Paul and Pacific R. R. was starting out of Crookston, W. H. Doyle, operator at Glyndon, attempted to jump on. He lost his hold, and fell under the wheels, both legs being crushed midway between the thighs and knees. He died at 8.20 P. M. same day. C. B. Coningham takes his place at Glyndon, while Charley Crowell relieves Coningham as night operator at Breckenridge.

Mr. W. F. Coleman, all night operator in train dispatcher's office at Bergen Junction (N. Y. L. E. and W. R'y.), had the ill luck to make a serious mistake in a train order a few evenings since, for which he has been dismissed from the service of the Company. The best of us are liable to make mistakes sometimes, and Wally's many acquaintances and friends on the Erie and elsewhere will be sorry to hear of his misfortune. It is to be hoped that he will not be long out of employment. A Mr. Nichols from Susquehanna takes Mr. Coleman's place at Bergen.

I fully concur with "Pacificus" in regard to the tramp operator, but when it comes to the "incoming army of college plugs driving out the telegraphic tramp," it is hard to say which is the lesser evil. I will go further than "Pacificus," and say: Let each individual operator who has the least claim to decency and respectability do his utmost to drive out not only the "tramps," but "plugs," the latter being only a newer edition of the tramp. They are both a disgrace to the profession. The better class of operators have it in their power to accomplish great good in this matter, but will they avail themselves of it? This is the question. Let them put their shoulder to the wheel, and give a "long pull, a strong pull, and a pull all together." Time will show of what stuff the present generation of telegraph operators are made. "C. I."

ALBANY, N. Y., AND VICINITY.—Michael Corbett, a W. U. lineman in Supt. Thompson's gang, while working on a pole in Troy, Sunday, April 20th, attempted to support himself by a small board sign, which gave way, letting him fall backward to the ground, a distance of fifteen feet, breaking his arm near the wrist. We sympathize with Mr. H. L. Waterbury, W. U. night press man, in the loss of

his mother, who died at her residence in Saratoga on the 21st inst. It may interest the many operators who have been "roasted" in Saratoga during past seasons to know that the W. U. have at last an office both large and comfortably located, in the Arcade. Mr. W. B. Vansize, formerly chief operator for the A. & P. in this city, is now studying at the Albany Law School, and subbing occasionally in the W. U. office. Mr. Waller E. Welch, manager of "K" office, Lake George, who, by the way, is a first-class surveyor, is now engaged in surveying and laying out the course for the coming regatta on that lake.
X. Y. Z.

Mr. Crosby J. Ryan, a well-known time operator, is in destitute circumstances, and appeals to the telegraphers of the United States and Canada for assistance. Mr. Ryan is well known among the craft from Maine to California, having spent a quarter of a century in the telegraph service. When the Government wanted telegraphers at the outbreak of the Rebellion he was one of the first to volunteer his services. He built the line used by General McClellan in his march from Fortress Monroe to within four miles of Richmond, and performed some of the heaviest telegraphic work during the war. Mr. Ryan has, unfortunately, for some time suffered from a terrible and peculiar affliction which, while not amounting to absolute blindness, is sufficient to debar him from getting or filling a situation. Were Ryan a drunkard, or a lazy, good-for-nothing fellow, the case would be different; but he is willing to work if he could only get anything to do. He is now in need of immediate aid. If each person who reads this would only contribute fifty cents, or even twenty-five, what a help it would be, and what a worthy charity they would be contributing to! Contributions addressed to Crosby J. Ryan, care of W. U. Tel. office, Detroit, Mich., will reach him.

I. AND G. N. R. R. OF TEXAS.—This road extends from Longview to Houston, with branches from Houston to Columbia, Palestine to Austin, Troupe to Mineola, and Phelps to Huntsville—making in all 520 miles of road. Mr. O. H. Dorance is superintendent of telegraph, with C. W. Kouns and Geo. W. Crawshaw, from the K. P. Railway, as day dispatchers, and Mr. E. L. Moore, from the C. B. & Q., as night dispatcher, office at Palestine. At Longview are R. R. Chang, with C. S. Sheldon night man. Dan Lines is at Kilgore, D. T. Forbes, "Little Davy," at Overton, and Colie McKay at Troupe, with Geo. W. Johnston nights. Jacksonville is presided over by J. T. Patton, everybody's favorite. George Buckingham is at Neches. Palestine general office is held down by E. F. Williams, whose fast writing causes some of the plugs' hair to "riz." J. C. Ray has held the post of honor at Elkhart for five years. H. W. Shiedemante is at Grapeland. H. R. Strain, formerly dispatcher for Texas Pacific, is at Crockett. The renowned Simpson is at Lovelady. Trinity is managed by J. H. Seaman, and Riverside by the indelible Johnston. Prof. Kennedy watches the sounder at Dodge, and Noxon at Phelps. Miss Lucille Smith, with gentle fingers, wafes the subtle fluid from Waverly. F. R. Allison is day man at Willis, assisted at night by "Judge" Howard. Pap Anderson is at Spring. At Houston, "Gn." Granny Clark is day operator, and Mr. Woodland worries "Mo" after sundown. There is only one plug factory on this road—a pretty good showing for 520 miles of wire.

OPERATOR.

BIRTHS.

To Mr. George H. Spencer, day operator B. & O. R. R. Depot, Mount Vernon, O., a son.

DEATHS.

April 21st, in New York, Benjamin F. Ostrander of the A. & P. office, in his twenty-third year.

April 16th, Virginia Celestia, infant daughter of Wm. H. Rowlett, operator and agent Hodge's Depot, S. C., aged three months and twenty-eight days.

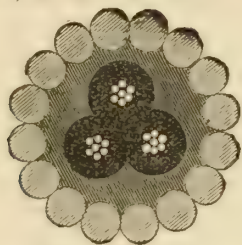
April 22d, in Brooklyn, N. Y., Harry, son of S. H. Edwards, in the eighth year of his age.

The very wires vibrate in grief
At the answer to the call;
We share the sorrow of our chief,
And would gladly take it all. A. & P.

P. O. Box 3,332, New York.

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of the BISHOP GUTTA-PERCHA WORKS, begs leave to announce the acquisition of the exclusive right within the United States and the Territories thereof, to manufacture and sell Gutta-Percha Covered Wires of every description, under Letters Patent of the United States (No. 65,019), dated May 21, 1867, granted to Geo. B. Simpson, now owned by Clinton G. Colgate, for the use of Gutta Percha as a covering or insulator of wires for atmospheric or submarine telegraphic communications or for other electrical purposes, the validity of said Patent having been established by a decree made by the Circuit Court of the United States, held in the City of New York, dated Dec. 8, 1878.

The *Insulating Properties of Gutta-Percha* for Submarine Telegraphic Cables have been thoroughly tested for the past thirty years, and for subterranean purposes after many tests in Europe, and a continuous use in this country for seventeen years, its superiority is conceded over all other insulating materials and compounds.

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It is the assignee and owner of all the patents granted ALEX. GRAHAM BELL, and these cover all forms of Telephone hitherto devised. Manufacturers and users of other Telephones are infringers upon the rights and property of this Company, and will be held responsible in damages.

The District or Telephonic Exchange System of this Company, by which parties in different places can be connected and converse, is in successful operation in Boston, New Haven, Albany, Chicago, St. Louis, Cincinnati, and many other places.

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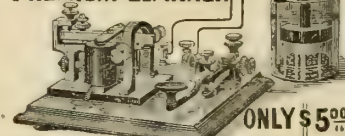
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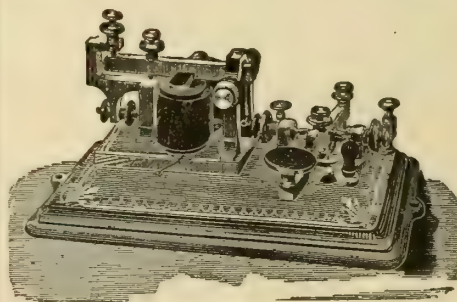
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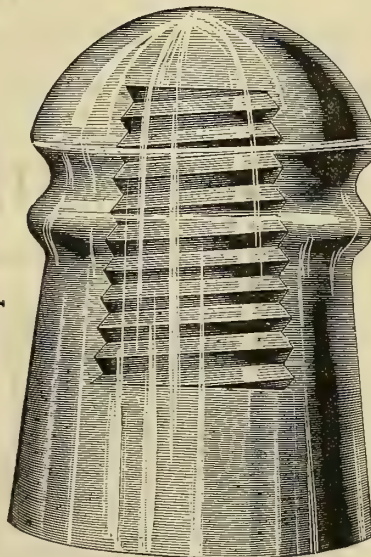
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The action of water, salt or fresh, not only protects all its qualities, but very much improves its insulation.

It is also unchanged by being placed in the ground. Any corrosive elements in the earth do not act upon it; nor is it injured by the roots of plants, which soon destroy gutta-percha.

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EMINENT ELECTRICIANS AND PRACTICAL TELEGRAPHISTS commend and recognize the Kerite insulation as superior to all others.

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February 12, 1877, he writes further, "This piece of Kerite wire, unprotected by any covering, was in use in the tunnel under the river in Chicago from Sept. 1869 until December, 1876, and shows no signs of decay or deterioration in its insulating qualities."

Prof. MOSES G. FARMER says, "I have used your Kerite as leading wire more or less for four or five years. It stands abuse, changes of temperature, alternate wetting and drying better than any insulator I have tried."

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Many other equally favorable and satisfactory commendatory letters are in the possession of the proprietor.

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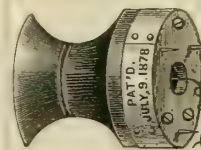
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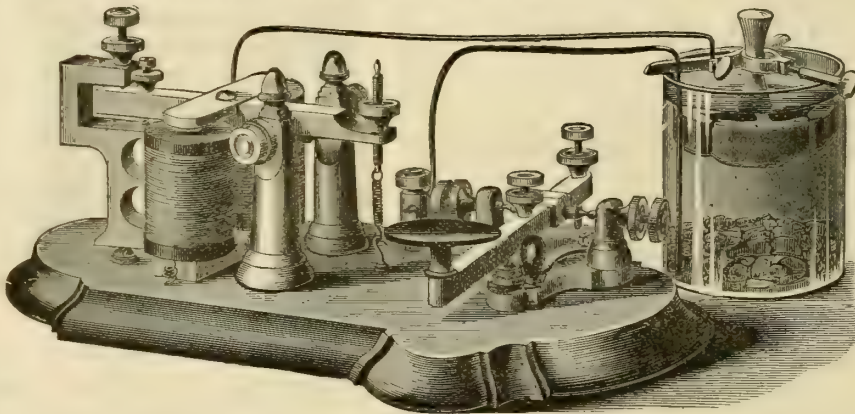
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THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

May 15th, 1879.

Volume X.

Whole No. 126.

The Operator.

'Tis of an operator
I'm about to write a tale,
Why his once rosy rounded cheeks
Are now so wan and pale;
Why his once shining raiment
Now looks so mean and old;
And why an old dyed duster
Now protects him from the cold.

When first he learned the business,
He knew no want nor care,
And not the lightest shadow
Rested on his brow so fair.
He handled fifty dollar notes
As things of little worth,
And life was one continual round
Of never-ending mirth.

But soon a cloud o'ershadowed him;
It turned his smiles to tears—
His days were full of anxious thoughts,
His nights were full of fears.
No more he calls his fellows out
To spend his cash for treats,
Nor dines at high-toned restaurants
On aristocratic streets.

Alas! no more he rides in cars,
Nor of a carriage talks.
He makes his meals of doughnuts now,
And on his uppers walks.
No more he sports a big seal ring,
Nor wears a high silk-hat;
His Russian leather pocket-book
Is empty now and flat.

And would you know the reason why
He does these sorrows feel?
And why the salty tear drops
Adown his cheeks do steal?
And why he tries a good square meal
To get without avail?

My friends, these woes are all occasioned
By the "Sliding Scale." BELJAF.

Pacific Coast Notes.

"The country never seen sich times," was the startling salutation made by the materialized spirit of Daniel Webster at a select seance given to some of the faithful somewhere or other not long ago, and a country paper commenting on it, remarked that "Daniel seemed to have gone back on that dictionary of his," the editor unintentionally crediting the great statesman with the authorship of the great "unabridged," and placing himself in a tempting position for the critic's inevitable attack. There is a good deal of truth in the aforesaid spirit's utterance, however, as applied to the condition of affairs in California just at present. There seems to be a general stagnation in all branches of trade, and capital lies idle. The "blarsted monopolists" being in a state of uncertainty as to what the 7th of May will bring forth, for on that day the present constitution of the State is to be permanently shelved, or the brand-new instrument that our statesmen have labored so industriously at for several months, is to be consigned prematurely to ignominious obscurity.

The telegraph company suffers from this state of inaction fully as much as any other business combination. The new instrument, if adopted, will affect its interests very seriously, it is thought, as the most radical changes from the present code of laws are those aimed directly at corporations and monopolists generally, increasing their taxes, and limiting their rates. Business being so dull, the prospect is a little discouraging for operators out of employment. It is noticeable that there are very few changes taking place in the San

Francisco office, or elsewhere, but it is also apparent that, while men are prudently retaining the positions they now occupy, rather than to voluntarily relinquish them for an uncertainty, yet they are gradually cultivating a habit of economy, and making other preparations for a life of more independence and healthfulness in the pursuit of some other occupation. The short-sighted policy of some of the company's officials is doing much toward driving the best men in their employment out of the business. Some of them are so anxious to curry favor with the company, that they embrace every opportunity to show their brief authority, especially in the way of reducing expenses, and decreasing the standard of their employes' ability, an exercise of which power they seem to think is the surest evidence of the possession of brilliant executive faculties.

That remark in the editorial columns of THE OPERATOR in a recent number that "being a favorite of the superintendent is generally the most efficient of recommendations," is truth itself, but then there's very little hope of a reformation ever taking place in this respect, and the power to aid one's friends, whether they are deserving or otherwise, is looked upon as one of the perquisites of office. A superintendent cannot reasonably be expected to worry along on a pitiable salary of one hundred and fifty or two hundred dollars a month without any other remuneration! Of course, an operator can support a family for the same time on fifty dollars, but then he is an entirely different sort of a machine, a pretty good sort of a creature in his place, if he behaves himself, you know, but his wants are few: a little bread and butter, and enough clothing to enable him to indulge in that luxurious custom of bodily adornment which our illustrious progenitors, Adam and Eve, inaugurated a few thousand years back. Give him these so-called necessities, and he ought to be satisfied! Some of them occasionally demand some of the luxuries of life; say that they want money to invest in literary works, and time to read and study them; in short, that they want to cultivate their mental powers, and enjoy social intercourse with their fellow beings! Now, this is revolutionary; it is presumptuous; it has a tendency to indicate that the employe has some rights which the employer is bound to respect; and such sentiments are positively disgraceful, and they ought to be discountenanced, and the audacious promulgator of such ideas should be unceremoniously squelched—sat upon, as it were.

Speaking of business being dull, the triumphal tour of the great, unwashed agitator, Kearney, which he lately made through the southern part of the State, caused a temporary increase in press matter. The "fiery Rupert" of the sand lot was accompanied by two reporters, whose duty it was to transmit to their respective papers a full report of the great man's sayings. They did this duty faithfully, and many a wayside artist, who works for glory, and twenty-five per cent. commission, and who had never before tackled anything in the way of manuscript more improving than the periodical missives of "that girl of his'n," was frequently heard anathematizing the chirography of that "long haired Carl Brown," as he painfully worried off a three thousand word "special." Kearney is home again, stocks are down, catastrophes of any magnitude are painfully scarce, and the "extra" man is patiently waiting for a call which cometh slowly and seldom.

The Williams-Allen case at Sacramento has been once more decided in favor of the plaintiff (Williams). Upon the court calendar it is "Williams, versus the Western Union Telegraph Company, being an action brought to recover damages to the amount of \$10,000 for the failure of defendant to transmit a telegram filed and paid for by plaintiff, August 1, 1878," or words to that effect. But operators, and others familiar with the circumstances of the case, prefer to look upon it as a case brought against Allan (the Sacramento manager) personally, and if the Western Union Company officials would be content to place the responsibility entirely upon him, instead of assuming it themselves, it would be infinitely more creditable to them. It will be remembered that Mr. Williams was an operator in the Sacra-

mento office previous to August last, and that he was unfortunate enough to win the ill will of Mr. Allen. That dignitary discharged and black-listed him with no other excuse than that of personal hatred. Williams then telegraphed a remonstrance to Superintendent Gamble, paying for the message, which was undoubtedly suppressed by Allen, as it did not reach its destination. At the first trial of the case, as also in the last, the defendants attempted to prove that the message had not only been promptly telegraphed Mr. Gamble, but that the original copy had been forwarded to him by mail! To any one familiar with the manner in which a telegraph company does business, this way of mailing a message to the party to whom it is addressed (except in rare instances when special orders are issued to that effect), has the appearance of novelty. It is almost impossible to obtain a correct account of this trial, but the jury evidently had good reasons for not crediting any such testimony as the above, probably because the defendant's chief witness who told that story at the first trial, was clearly shown to have committed perjury. Unsuccessful attacks were made upon Mr. Williams' ability as an operator, and his integrity as a man; but the jury, after being out a few hours, rendered a verdict awarding him \$3,750 damages, and it is understood that at least two of the twelve men composing that body were in favor of allowing him the full amount claimed. The judge charged the jury to the effect that the plaintiff was entitled to recover actual damages sustained in addition to fifty dollars statutory damages, so it seems that his Honor and the jury looked upon it as a pretty clear case. Mr. Williams has the sympathy of nearly, if not all, the operators on the coast, and the reputation of the Sacramento manager is "so rank it smells to Heaven." He is so universally unpopular that his name can scarcely be mentioned to any one who knows him without calling forth such a remark as "yes, it's just like him, did you ever hear of the mean trick he played on Se-and-so?" or "what else can you expect from such a man?" The Western Union Company generally has the sympathy of its employes when it is engaged in a lawsuit, but in the present case operators feel that the cause of Mr. Williams is a just one, and they hope for his ultimate success.

It is pleasant to leave a subject that savors so much of injustice, and relate an incident that illustrates the generosity and brotherly feeling that exists among operators as a class, and, possibly, more especially here on the Pacific coast than elsewhere. We are not members of any secret society, one of the obligations of which requires us to feed the hungry and clothe the naked, but a subtle something binds us together, and makes us realize the brotherhood of men, especially in relation to those whose lives have run in the same groove as our own by reason of their following the same occupation. For some months past a well-known operator, and a deserving man, has been lying upon a bed of sickness in a town in the southern part of the State. His condition becoming known, a call was made upon his fellow operators, which resulted in raising a fund of one hundred and fifty dollars, chiefly subscribed by the operators in the San Francisco and Sacramento offices. If the need existed, we believe there is scarcely an employed operator upon the Pacific coast who would not contribute liberally in such a case as this. In this instance it must be said that not only the operators, but the assistant supt. general, and other officers of the company, took an interest in the case, and responded kindly to any appeals that were made. "Comparisons are odious," but, in the hope of increasing this generous spirit of brotherly kindness among the fraternity at large, it may be excusable to say that California operators feel a little proud of the result in the above case, when they remember the meagre returns that were received from a subscription taken up among the operators in one or two of our largest eastern cities less than a year ago, in behalf of one of their fellow operators who was out here almost destitute, and who died during the past winter in one of those cities. Charity is like mercy: "It is twice blessed; it blesteth him who gives, and him who takes," it is a sure and

safe investment, and will inevitably yield a rich return; and no one is so independent, but that sometime here as in the great hereafter, he will need to have its kindly mantle thrown around him.

Ned Reese is with us once again, the Nevada Mountains, among which he has been sojourning, doubtless miss the light of his genial countenance, but their loss is our gain.

Say a Kind Word when you can.

Two articles in THE OPERATOR of last issue attracted my attention, to which I should like to point the notice of your readers in general. I refer to a defense of R. M. Hughes and of a Mr. Marshall.

We all feel, at times, no doubt, the misfortune of being surrounded by those who are prone to attack personal character. Few of us have not felt the venom of the slanderer's tongue. Few of us have not felt the blush of shame mantling our cheek as some stinging report has reached our ears, carrying with it just enough of truth to make it fiendishly malignant, and enough of mortified sensibility and outraged humanity to make us feel that the grave would be a welcome refuge, were it but to cover us from the treacherous shafts of the slanderer.

We may lock our money in burglar-proof or fire-proof safes, and defy the robber or the incendiary; we may invest it in Government Bonds and guard against shrinkages in value; we may even make death a source of pecuniary profit to our heirs, but against the tongue of the calumniator there is no defense. Against his shafts there is no impenetrable armor. They find their way alike into palace and hovel, and strike down the prince no less than the peasant.

The sacredness of the pulpit, the innocence of maiden virtue, the bold uprightness of manly rectitude, alike are helpless against this more than pestilential death. Nothing is too holy nor too noble, too wise nor too simple, to be attacked by this scorpion—which only discriminates in its choice of victims by leaving the vicious untouched, and slaying, with its curleous sting, the virtuous and the noble. The solemn sacredness of the tomb, even when covered by the mosses of a hundred summers, is no refuge. Washington—first in war, first in peace, and first in the hearts of his countrymen—has had his hallowed grave invaded by the same serpent which has dragged Byron's name to the light, from the only quiet rest he ever had, to beslime it with the foul mucous of slander, as though calumny would reach its snaky head among the elect who surround the throne of God.

I am in no way constituted the defender of either of the men in question, who, I suppose, are amply able to take care of themselves, and who seem, moreover, to have friends who are ready to speak in their behalf. I am no one's champion. I simply plead in the name of outraged honor, of helpless reputation, that operators, especially those who feel inspired to write, be exceedingly careful! what they say of their brethren. Surely in the literary and mental activity of this nineteenth century, subjects enough may be found to engross a fertile pen without resorting to defamation of character. At least, when one feels himself bursting with a poison inspiration, which will kill him if he does not spread it over the pages of a paper, let him submit it to one or two simple tests before he says it, and he will often leave it unsaid.

First.—"Is it true?" Make perfectly sure that there is no guess work or hearsay about what you are going to say. Do not commit anything to the merciless engine of the press, which may ruin a brother, without being absolutely certain that it is God's own truth. There is nothing in all this world of wounds so difficult to heal as a broken heart; nothing so hard to recover as lost reputation.

Second.—"Is it necessary that it be told?" Do not say a word which may damage even an erring brother, without the assurance that the thing you are about to say will do a great deal more good than harm. I doubt whether our credit account

in heaven will be larger for the kind words said, or for the unkind one's unsaid.

Third.—"Are your own skirts perfectly clean?" Open your Testaments and read the story in which Christ is said to have "stooped down and wrote in the sand." It is an easy thing to say of another—"He is a poor operator;" but I have yet to find many of the really good one's who take the trouble to say it.

He who resorts to such means to injure the reputation of a professional competitor seldom has a record behind him which will bear very critical inspection. He generally screens himself under an assumed name, and almost invariably manifests the most complete astonishment and disgust when the article is pointed to his notice. In other words, he is always a coward—often a liar. I am conscious of having used a harsh word, but, I think, not an unfair one. He who has only harm to say is not apt to be a martyr to the truth, and has need to keep his identity concealed. If Logan has never tried to speak well of a brother through the press, let him try it once. He will find it an unwonted pleasure.

Lastly.—I protest against the use of our paper as a medium of personal animosity and professional jealousy. THE OPERATOR and its editor are our friends, not our enemies. It is an instrument of education and civilization, not an engine of destruction.

We turn to its pages for blessings, not curses. I plead in behalf of every overworked, underpaid slave of the W. U. corporation, that his good name and fair fame may be sacred and safe alike from secret foes and injudicious friends in the columns of THE OPERATOR.

I plead in behalf of tired hands and sore hearts, for the patient laborer who goes on with his irksome toil, uncomplainingly doing his daily duty, and who, with his books all clear at last, dies and makes no sign. It is such an one who carries with him over the flinty shards the heavies load of sorrow—but buries it all at last in his own silent grave.

SUMAC.

BOND HILL, O., April 22d, 1879.

The St. Louis Telegrapher's Ball.

The long talked of complimentary reception, promenade concert and ball under the auspices of the St. Louis telegraphers was given, as per announcement, Wednesday evening, April 23d, and was a pronounced and decided success. Not a hitch occurred in the numerous details necessary to its success, not an unpleasant incident happened to mar the pleasure of its participants. One thousand invitations were issued, fully half of which were scattered throughout the country to all the prominent artists in the fraternity.

The following gentlemen, well known St. Louis telegraphers, served acceptably on the following committees:

Committee of Arrangements—James W. Cooke, Wilson S. Chapman, Edward K. Carnes, Lara C. Baker, W. W. Cummings, Albert E. Van Tyne, Wm. W. Osborn, Isaac McMichael, Joseph Campbell, James S. Nelson.

Reception Committee—John H. Topliff, Kenneth McKenzie, Miller Bullard, Rudolph H. Bohle, Henry C. Mahoney, Theodore P. Cook, Joseph C. McIlvaine, Abner R. Pippitt, Thomas P. Wheeler, Michael Holahan, John L. Cassidy, Charles W. Hammond, Jas. A. Murray, Geo. W. Brownson, Samuel B. Roberts, Geo. B. Hunt, James P. McClure, Henry F. Parry.

Floor Committee—James W. Cooke, John H. French, James S. Nelson, Wm. J. Foy, Joseph Campbell, Edward K. Carnes, Marc Gautier, John D. Bell, Charles E. Cummings, William T. Barnes, Frederick G. Schofield, Francis C. Adams.

Supper Committee—Albert E. Van Tyne, Sidney B. Fairchild, Robert W. Irwin, Geo. McGann, John G. Pinkerton, Wm. F. Jenkins, Frederick M. Finkbine, John Sullivan, Joseph A. Weaver.

Carriage Committee—James H. Gallagher, John H. French, William H. Chapman, Thos. F. Dunn, Jerry Linehan, George B. Hunt, Abner R. Pippitt.

Musical Director—William W. Cummings.

Texas furnished the largest delegation present,

many of this party traveling over 1,000 miles, the members of which coming from various portions of the State, met by appointment at Longview Junction, Texas, thence journeying to St. Louis in a body, being chaperoned by Manager Stacy of Houston, Texas, who piloted the party through in good shape.

Arriving in St. Louis early Tuesday morning, the 22d, they were met by the proper committee, and escorted to the La Clede House, which was the headquarters for all visiting operators. The Texans numbered fourteen, as follows: D. S. Ryan, Galveston; L. Cohen, Houston; J. W. Stacey, manager of the Houston office; D. P. Shepherd, ex-superintendent at Houston; W. A. Pillow, Milton Morris, and F. G. Gwynn, of Austin; R. Henry, manager Denison office; F. J. Gates, Hutchins, J. S. Burton, manager of the Dallas office, and J. W. Halloway, train dispatcher at Galveston. Messrs. Burton, Gates, and Henry were accompanied by their wives.

The Chicago delegation arrived Wednesday morning, and, guided by T. P. Cook of St. Louis, were soon busy discussing an excellent breakfast at the La Clede with their Texas brethren. The Chicagoans were Sam Bracken, J. McRobie, Adam Beidler, W. T. Cullen, E. Murphy, E. W. Hinchman, H. W. Tolsted, C. L. Antisdel, A. Schillinglaw, Mr. and Mrs. A. C. Kuapp, and Misses E. Morris and Deaumont.

Ohio sent five delegates, all from Cincinnati, as follows: Mr. and Mrs. Albert M. Paddock, Eugene Barnard, Ed. J. Gallagher, and G. H. Yeager. Indiana had two representatives, Messrs. E. S. Swift and H. C. Suckles of Indianapolis. Arkansas was represented by W. H. Winfield, of Texarkana. Iowa and THE OPERATOR were represented by Tracy Barnes of Clinton. Many neighboring Illinois and Missouri towns sent delegates whose names were not learned. Wednesday's St. Louis Globe Democrat speaks of the evening's event in the following unique style: The telegraph operators of this city will give a grand hop to-night, when the St. Louis Knights of the Key will receive and entertain a large number of their professional brethren of other cities. Dancing will be the main feature of the evening, and will be indulged in by the disciples of the mystic art until morning. Each true knight will replenish his batteries, and have his wires in thorough working order for the occasion. He will complete the circuit of the hall in winding through the "mazy," and do the quadruplex after the most approved Edison pattern. When he telegraphs a girl to dance with him, the answer will come whizzing along the wire with an alacrity that will shower electric sparks in every direction. But should the first lady fail to respond, all he will have to do will be to call the next office. In calling for refreshments all messages will have to be prepaid, and chain-lightning will be carefully avoided as something not to be tampered with. Telephones will be distributed at proper intervals through the hall, so that all the dancers can hear the caller, and so prevent the wires from becoming entangled. Relays of fun will be on hand, and every last knight will stick to his post while the light holds out to burn.

The ball was given in Masonic Hall, a very large and beautiful room, easily accommodating three hundred couples. The hall was handsomely decorated with flags festooned in graceful folds between the marble pillars, while upon the musician's platform were erected two miniature telegraph poles with cross arms, insulators, etc., all made of flowers, and were connected with wires of smilax—the whole design being very beautiful and appropriate. After several fine selections by the Knights of Pythias band, the grand march inaugurating the ball proper was given, Chief W. W. Cummings and lady leading, followed by over one hundred couples.

Dancing commenced promptly at ten p. m., by which time there were two hundred and fifty couples present, including many leading society people of the Mound City. Supper was announced at 1 a. m., and an excellent bill of fare served by Louis Heinrich, the leading caterer of St. Louis. Dancing was continued until the "wee sma' hours," when "80" was reluctantly given, and

the wearied but happy participants wended their way to their respective abodes, each one mentally voting the entire affair a phenomenal success.

NOTES, INCIDENTS, AND PERSONAL POINTS.

Mrs. A. C. Knapp, of Chicago, was the finest dressed lady present.

Mr. and Mrs. Superintendent L. C. Baker honored the ball with their presence.

Miss Mamie, daughter of Sid Fairchild, was especially courteous to the out-of-town operators.

Mrs. J. W. Topliffe presented a beautiful appearance, and was untiring in her courtesies to the visitors.

Jim Murray doesn't dance (being too consumptive), but shows up at supper time, much to the gratification of his many friends.

Sam Bracken, Adam Beidler, and Tracy Barnes tried hard to get up a ball game with the St. Louis boys, but all were "too tired!"

Jim Stacy, George Brownson, Ike Cohen, and Tracy Barnes visited Cole's circus, the Texas orphans admiring the educated pig very much.

Several of the Chicago "stags" secured ladies to escort, among whom were Beidler, Cullen and Schillinglow. They were envied by their less fortunate brethren.

Passes were furnished all visiting telegraphers; the Texas delegation securing half rates from the Pullman Company. At 11 A. M., Wednesday, all the visitors, guided by Chief Topliff and T. P. Cooke, visited the operating room of the W. U. T. Co., being cordially received and entertained by Chiefs Cummings and Van Tyne, assisted by a number of the day force.

A St. Louis young lady was heard to say, "How funny! the Texas men look like any other men." She evidently was looking for "pistols" and "sombrosos." One of the Chicago men, upon being pressed for his bridge fare, told the gentlemanly agent that "he didn't want to buy the bridge, but merely wanted to ride over it!" He purchased a quarter's worth, however. Upon taking their departure, one of the visitors said he, "never! no, never! had enjoyed a visit more." "He was promptly killed." "Served him right," was the verdict of his friends, his sisters, his cousins and his aunts! B.

CLINTON, IOWA, April 26th.

"Turn Down for Richmond."

It is safe to say that no message ever sent by telegraph was of such national interest as the one which Mr. William E. Kettles, then an operator in the service of the Government, at the War Department at Washington, received from Richmond on the morning of the 3d of April, 1865. Mr. Kettles, then a mere boy of 15, but an expert operator, was working the Fortress Monroe and City Point wire at Washington. Shortly after 9:30, the Washington and Cherrystone operators were engaged on a long message, when suddenly both men were taken aback by what seemed to be a most foolish demand from Fortress Monroe: "Turn down for Richmond, quick!" Had a flash of lightning struck through the walls at that moment, the shock could not have been greater than it was on the part of every man in that room.

There was great alacrity in turning down the adjustment. There were trembling fingers while it was being done, and there was a gathering around of many operators, with curiosity, suspense, and impatience combined, to see what it meant. Sure enough! the signals from the operator in Richmond to the operator in Washington were bounding along the line. No signal was ever answered more promptly. Then came the question:

"Do you get me well?"

"I do; go ahead!"

"All right. Here's the first message for four years."

"RICHMOND, VA., April 3, 1865.

"Hon. E. M. Stanton, Secretary of War:

"We entered Richmond at 8 o'clock this morning."

"G. WEITZEL.

"Brigadier-General Commanding."

Mr. Kettles concedes that he copied the mes-

sage, but he could never tell how. He remembered starting up from his chair and upsetting inkstand and instrument; of kicking over a tin that sat at the fire-place, in order to make a noise; of rushing for General Eckert's room, where sat President Lincoln and Mr. Tinker, the cipher clerk, talking in a low tone. As Kettles was about to hand the message to Mr. Tinker, the President caught sight of the body words, and with one motion and two strides message and President were out of sight on the way to Secretary Stanton's room. Mr. Tinker and everybody else were dumbfounded. Kettles quietly returned to his instrument, walking like one in a dream; proceeded mechanically to turn the inkstand right side up, and to straighten up his overturned machine. Then he sat down in his chair, and stared before him in blank amazement. Around him were the other operators, every man alike flustered, and unable to get their minds back to their work, or to utter connected words.

In less than one-quarter of the time it takes to write this, the operating room was filled with officers and sub-officers. President Lincoln and Secretary Stanton came in and shook hands with every one in the room, and then every one in the room shook hands with one another, and then with the President and Secretary again. Then they all crowded around the Fortress Monroe instrument, hungry for more news. Kettles sat at his instrument while questions were showered in on him from every mouth. He was asked more questions in those ten minutes than he will be likely to be ever asked again in that space of time. At last the information came that Richmond had disconnected itself for the present. All retired to General Eckert's room, except Mr. Tinker and Kettles, who stood by the window endeavoring to hear themselves think. Neither of them had drawn a perceptible breath for ten minutes. Outside were the broad grounds of the department buildings. Looking from the operating-room window the prospect was clear; not a single person was to be seen. Suddenly a Georgetown horse-car appeared in the distance. On it came at the usual rate. Near the building it stopped. A man got off, and started with slow, leisurely steps up the center walk to the door. Inside the operating-room the thrilled operators looked out on his slow, steady pace, and could scarcely contain themselves at his unconcern. He was meditating—actually meditating—as though there was nothing to throw off his hat for, and cheer till he was hoarse. Keeping on, he presently lifted his head and looked at the window. Tinker was there and knew him.

"Any news?" he casually inquired.

Tinker leaned far out of the window: "Richmond's fallen!" he said.

No tongue can describe the features of that man while he was coming to himself. He turned red and white by turns, till, suddenly realizing the meaning of the words, he waved his arms, then turned and ran. Down the street he ran, spreading the news to every one he met. Soon there was a great crowd. The excitement rose, the people seemed almost wild. The War Department was soon besieged. Outside was a multitude. Inside were excited officers, clerks, operators, and an excited President. The outsiders looked in at the insiders, and the insiders looked out at the outsiders. Questions came hot and fast from the multitude, and answers were shouted back from every man who could get his head to one of the two windows. The crowd got the news fairly in its mind, and then seemed to want three cheers. The three became four. Then they wanted speeches. They got them. Half a dozen speeches were under way in less than that many minutes. Some were good ones. Andrew Johnson was there. He was saying: "God bless the old flag. If I was President of the United States—"

At this point something exciting occurred. Secretary Stanton entered the operating-room leaning on Gen. Eckert's arm. Gen. Eckert pointed out to him the boy who had received the messages. They were formally introduced. The next moment Kettles found himself seized by the Secretary, and held at arm's length out at the

window above the crowd. The Secretary called to the crowd that this was the young man who had received the dispatch of the fall of Richmond. The crowd wanted a speech from him. Kettles gave them a speech in a few words, appropriate and pointed, for he was in the humor.

Then followed other scenes. Fire-engines were brought out—anything to make a noise. In the evening the city was ablaze with illuminations. Kettles, who is now an operator in Boston, says he can never forget how Father Abraham started for Secretary Stanton's door after receiving the dispatch—hop, skip, and jump—shouting, "Clear the track!"—*Phila. Times.*

More Would-Be-Telegraphers Swindled.

The Baltimore *American* of April 23d contains an account of the swindling operations, in that city, of an ex-operator, calling himself "William Thayer, of Richmond, Va." From the description it is thought that "Thayer" is H. B. Breed, with many aliases, whom the police of Harrisonburg, Va., are anxious to meet, on account of his swindling one of the merchants of that place out of two hundred and forty dollars by means of bogus telegrams—as reported at the time in THE OPERATOR—and for other minor irregularities. Breed is about 30 years of age; about 5 feet 8 inches high; thick set; dark hair, eyes, and skin; scar on neck, and rather bow-legged, and very familiar on short acquaintance.

According to the *American's* account, a respectable-looking young man, of pleasing appearance and engaging address, representing himself as an instructor of telegraphy, secured rooms, February 20, last, at a fashionable boarding-house on North Charles Street, Baltimore. He gave the name of William Thayer, of Richmond, Va., and, in response to an advertisement, secured a number of young ladies as pupils. His terms were \$25 per quarter, and at the end of that period he guaranteed proficiency in the art, and situations to his pupils when sufficiently advanced to take charge of an instrument. The reception-room of Thayer was fitted up with a local instrument, and day after day he was busily engaged in giving lessons to the young ladies, from 8 o'clock in the morning until late in the afternoon, some of whom became quite expert, and were promised situations during the present week. Monday night, about half-past ten o'clock, Thayer secured a wagon to take away his baggage, and, in order to prevent his landlady or any of his fellow boarders from hearing the noise attending the removal of his effects, he tooted away on a cornet, on which instrument he was but an indifferent performer. His departure remained a secret until yesterday morning, when the landlady was informed of it, but did not deem his absence as significant, presuming that he had sought cheaper quarters. This theory, however, was dissipated by nine o'clock, when a young lady, a former pupil of Thayer's, called in order to accompany him to take charge of a situation which he had promised her in a wholesale notion house in South Street, near Baltimore Street. When informed of his departure she was nonplussed, but accepted the situation under protest. Subsequently, during the day, fifteen or twenty other ladies called, many of them for the same purpose, and others to continue their course of lessons. All of them had paid Thayer sums of money, ranging from \$10 to \$25, which he had exacted in advance, giving in exchange a written agreement to give them situations at the close of the course of lessons. Most of the ladies were in reduced circumstances, and felt the loss keenly, having paid their tuition only under the promise of steady employment in the future. Thayer is described as a short, thick-set man, of about thirty years, smooth shaven, and exceedingly plausible. Persons who knew him are of the opinion that he is an old swindler, and has operated in other communities. He engaged rooms at the Maltby House, March 19, registering his name as "A. C. Thayer, New York, but the proprietor regarding him with suspicion, demanded and secured his board in advance, when he left. He also stopped at another private boarding-house, on Lexington Street, where it is tated that he neglected to pay his board.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

W. J. JOHNS - - - Publisher

May 15th, 1879.

WESTERN UNION stock is quoted at 108½, A. & P. at 35, and American District Telegraph at 58½.

It is expected, should no accident occur, that the new French cable will be in working order in 1880. The rate for messages per word will probably then be placed at twenty-five cents, possibly less. The capital of the Anglo-American Company is about \$40,000,000, and of the new company \$10,000,000.

It is said that Professor Swing, of Chicago, performs some of his pastoral visiting duties by telephone. His house is connected in this manner with those of some of his friends and parishoners. We should think this would be in many respects a wonderful improvement over the present slow, tedious, and formal manner of making calls.

In the case of Harrington and Edison against the Western Union Telegraph Company, involving the alleged infringement of the quadruplex device in telegraphy, and which has been on the calendar at Washington for about two years, Judge MacArthur, of the Equity Court of the District of Columbia, has rendered a decision that due service had been made by plaintiffs on the defendant, and that the Court has jurisdiction. The Western Union will probably appeal the case to the General Term.

It seems passing strange, after the numerous exposures that have been made from time to time, how itinerant telegraph instructors can secure so many victims as they do. We publish to-day a case of the kind that recently occurred at Baltimore. Surely, young people who imagine that they are cut out especially for wafting lightning, would display more prudent forethought and common sense by making inquiries of some reputable telegrapher as to the chances of ultimate employment and the like, before paying out money to learn the business.

THE opinion of Mr. W. H. Preece, Assistant-Engineer and Electrician of the English Postal Telegraph Department, in reference to running telegraph wires underground, has been considered of sufficient importance by the London agent of the Associated Press to be cabled across the Atlantic. Mr. Preece, in a lecture before the Society of Arts, said there are 10,000 miles of underground wires in Great Britain, but the known facts which tell against the extension of the underground lines are: There is an increase of three or four times in the cost; their capacity for carrying currents is reduced three or four times; the gutta-percha coating is attacked not only by rats and mice, but very largely by an insect called the *templetoria ergatellina*, and is also influenced by a fungus.

Another New Telegraph Company.

There is one more new telegraph company in the field. The capital—which has already been subscribed—is ten million dollars, and the corporators named are Jay Gould, of New York, who takes half the stock, 50,000 shares, of the value of \$100 each, David H. Bates, of New York, whose subscription is for 25,000 shares, and Charles A. Tinker, of Baltimore, who subscribes for the remaining 25,000 shares. The articles of incorporation of the new company have been filed in the County Clerk's office, and also in the office of the Secretary of State at Albany, as the law directs, and the construction of lines is now being rapidly pushed forward. An advertisement for climbers and ground hands will be found in the present issue of THE OPERATOR.

The promoters of the new enterprise have recently purchased the charter and rights of the Central Union Telegraph Company. Mr. D. H. Bates has resigned his position as general superintendent of the Atlantic and Pacific, to accept the presidency of the new company. Mr. Denis Doren, an old and well-known telegraph man, for many years connected with the Western Union, will be superintendent of construction. Mr. Joseph Owen, of Oswego, the projector of the Central Union Company will be secretary.

The new company was incorporated under the name of the Union Telegraph Company; but it was subsequently found that a charter had been granted about twenty years ago to another company with the same name. The new company will purchase the charter of its namesake if it can; but, failing that, will either make a change in its designation, or, as in the meantime, will be known as the Central Union, to the rights and charter of which company it has succeeded. At a meeting of the Board of Directors held in this city May 8th, officers were elected for the ensuing year, and the headquarters of the company are established at No. 145 Broadway, New York city. It was decided to file the company's acceptance of the Act of Congress of 1866, which grants to companies accepting that act the right to construct and maintain lines upon the public domain, and upon all post roads of the United States.

The Central Union Company, which has been in existence about six months, has a line completed through this city to High Bridge, and is in actual operation from Syracuse to Oswego. Beginning in this city at the Produce Exchange, the line runs through William and Mulberry Streets, to Bleecker Street, and through the latter across the city to Seventh Avenue. Passing through Seventh Avenue to Broadway, it extends through Ninth Avenue to McComb's Dam Bridge, and thence through Westchester County. From its beginning to the river the poles have been set, and the wires run. This part of the line was completed several months ago. From this city the poles have been distributed along the route to Albany, and are in position as far as Schenectady. The line extends from Albany to Buffalo, at which point connection will be made with the West.

The line of the new company, it is believed, will be in operation to Chicago, by two independent routes, within three months. One of these routes will be by the way of the Albany and Buffalo line, connecting at Buffalo with the Canada line. The other will be by the way of Baltimore, and the present line of the Baltimore and Ohio

Railroad. In order to complete the proposed connections, it is necessary for the new company to build lines to Baltimore and Oswego, and from Chicago to Detroit. The line from Boston to this city, and from here to Baltimore, is already under construction, and will be completed, it is expected, within about ninety days. Work was begun nearly three weeks ago on the lines east and south of this city.

By completing the proposed line of the Central Union Company to Buffalo, and by building the line now under contract from Boston to Baltimore, the new company is brought into direct connection with railroad lines extending to the Pacific Slope.

The further extension of the line is understood to depend upon the co-operation of the lines now owned and operated by railroad companies. It will be remembered that a bill to enable railroad companies to do a general telegraph business was introduced in the last Congress by Senator Jones, of Florida. By the Butler amendment the bill, in effect, became attached to the Army bill, and in the present Congress was made a clause of the same bill. It is said that the intention of the bill was to prevent litigation. The right to do a general telegraph business is claimed by the railroad companies which own the lines. The Supreme Court has recently decided (Pennsylvania Telegraph Company, vs. Western Union Telegraph Co.) that exclusive grants to telegraph companies under local statutes must yield to the paramount authority of the United States. In rendering the opinion of the Court, Chief Justice Waite says: "A law of Congress made in pursuance of the Constitution, suspends or overrides all State statutes with which it comes in conflict."

The right has been exercised by the Baltimore and Ohio Railroad Company, which has done its through business by means of the Atlantic and Pacific Telegraph Company. The local business along its line the company alone has done, collecting and making its own rates. The Pennsylvania Railroad Company is said also to have done a general business for many years, although for its own convenience its through business has been done by the Western Union Company. The Wabash Railway Company is said to own its own lines. It is understood that these companies have no contracts with the Western Union Company that will interfere with this exercise of claimed inherent rights.

Jay Gould's connection with the new company is rather to be deplored, since his object is probably more with a view to influence the stock market, particularly Western Union, than to build up a new telegraph company. A gentleman connected with the Western Union Company, speaking of the new company, said: "I have not a very exalted opinion of the new scheme. I don't believe that it is legitimate enterprise. I believe that the persons interested in it never intend to build the line. It looks to me like a demonstration, a kind of public show for making handsome profit out of Western Union stock. I don't know who are 'short' of Western Union, but some persons are, and they are attempting to get the price down. In a word, I think the plan to from a new telegraph company is a stock-jobbing operation. This is not the first time it has been discussed, either. I think it was nearly a year ago that it was first spoken about. A man by the name of Owen, who was a line builder for

those other companies which have been in opposition to the Western Union, was very actively canvassing for this new company last fall. They have a line already constructed from Syracuse to Oswego. About last Christmas they placed in position a number of poles on Seventh Avenue. The company was then known as the Central Union Telegraph Company. Well, Owen tried to get subscriptions because he wanted to build the line. He worked hard to get subscriptions, but didn't succeed, and finally the scheme fell through. Now it has been revived again. It takes about \$10 to get a charter for a corporation with a capital of \$10,000,000, and then those interested can begin working their plans.

"There are two motives that induce men to enter into an arrangement of this kind. The practical men make money by building the line, and the Wall Street men make money out of Western Union stock. A dodge of this kind frightens the timid men who hold Western Union stock. They get afraid that Western Union will fall very heavily, and sell at a sacrifice. It does not affect the large holders, such men as Vanderbilt and ex-Governor Morgan. Of course there have been attempts made before to form companies in opposition to the Western Union. There were the United States, the Southern and Atlantic, the Franklin and the Continental, the Bankers' and Brokers' (which was sold out by the Sheriff), and the Atlantic and Pacific. Some of these companies lasted a number of years, but I can safely say that not one ever earned a dividend. The Atlantic and Pacific paid a dividend, but the directors afterward acknowledged they didn't earn it. I believe that none of the companies ever earned their working expenses.

"It must be remembered that the money is made in building these new telegraph lines, not in operating them. When the Continental Company was formed this was seen very plainly. The managers made heavy contracts for building the lines to Baltimore and Boston. Then they tried to organize the company, and get subscriptions, but they never obtained the stock. To operate a new company with success, it would have to touch all points in the country. This was the great mistake made by the Atlantic and Pacific. They had their lines touching on the one side at San Francisco, St. Louis, Louisville, Chicago, New Orleans, Buffalo, Detroit, and some intermediate points, and on the other side at Boston, Portland, Montreal and intermediate stations. They argued that these were the places which yielded more than half the revenue to the Western Union, and that they had the cream of the business. But it was never thought that the revenue was not derived from those places communicating with each other. The money was certainly made at the large cities, but communication was received from all over the country. So when the earnings were pooled with the Western Union, it was discovered that they had less than one-eighth.

"As for railroad telegraphy, which this new company probably contemplates, it is a humbug. You would have to go back twenty-five years in the history of telegraphy to link together roads to make such a method pay. Whatever might have been done in the past, a system of that kind could not succeed now. I don't think any telegraph company could seriously damage the business of the Western Union with less than

\$20,000,000 capital in less than five years. The formation of new companies might be a little painful to the trustees of the Western Union, but it doesn't frighten them in the least."

A. & P. Annual Report.

From the annual report of President Eckert read at the meeting of the A. & P. Telegraph Company, April 30th, it appears that on the 31st of December last the company had 8,706 miles of poles, 22,421 miles of wire, and 233 offices. The lines and offices of the Central Pacific, New York & Oswego Midland, New Jersey Midland, and the Montclair & Greenwood Lake Railroads, as well as the Vermont International Telegraph Company, have severed their relations with the A. & P., and are now operated in connection with the Western Union. The lines of the Baltimore & Ohio and Grand Rapids & Indiana Railroads, and of the Dominion Telegraph Company and Direct Cable, as well as a few other minor companies, continue their connection with the A. & P. Forty-one wires, comprising 2,709 miles of wire, have been turned over to the Western Union during the year, in addition to which 150 miles of poles and 936 miles of wire have been taken down during that period, and 53 A. & P. offices closed. The number of messages transmitted during the year, including press and market reports, reckoning the latter two on a basis of thirty words to a message, was 1,269,510. The receipts for the year 1878 were \$1,287,243.04, and the expenses \$838,939.15. Two quarterly dividends of \$105,000 each were paid. The capital stock of the company is \$15,000,000. The report adds that when a decision in the suit of Elias C. Benedict, to prevent the carrying out of the pooling arrangements between the W. U. and A. & P., was rendered sustaining the agreement, an appeal was made by Mr. Benedict, which has not yet come to trial. In the meantime the settlements between the companies have been regularly made. The Board of Trustees—corresponding to the Board of Directors of the Western Union—elected for the ensuing year, are as follows: Edwin D. Morgan, Augustus Schell, Hamilton Mc. Twombly, Norvin Green, James H. Banker, Chauncy M. Depew, Samuel F. Barger, Thomas T. Eckert, Wm. J. Syms, John H. Mortimer, Albert B. Chandler, Sidney Dillon, R. H. Rochester, Henry M. Taber, Harrison Durkee.

Electric Light in England.

The electric light is coming into more general use in England than in this country. In London the Victoria Embankment is lighted by this process, as well as several of the London bridges. The electric light of forty lamps from Westminster to Blackfriars, applied over a distance of 245 yards from one center, is worked by Ransome's series of twenty horse-power engines and two Gramme batteries. Antwerp dock is to be lighted with the Jablochkoff system. A magnificent pile of warehouses belonging to Messrs. Crocker, Sons & Co., of Watlington Street, are to be supplied with twenty electric lights. Several of the London theatres and large stores are lighted in the same way. This is a great advantage, business being carried on equally well by night and day. In Paris the principal streets and squares are illuminated with a flood of electric light, almost as clear and diffusive as sunlight. In that city, as

well as in London, the electric light is extensively employed in large railroad stations. One powerful electric light in the Edgeware Road Depot of the Metropolitan Railway illuminates the whole interior. In some instances mines have been lit up by the same means. The very low temperature of the electric light, its non-consumption of oxygen, and its infinitely greater illuminating power, recommend it strongly to general use.

ADVERTISEMENTS appear in the Paris papers soliciting subscriptions to the stock of the "French Paris and New York Telegraph Company," which proposes to lay two lines across the Atlantic, one from Brest to the French Island of St. Pierre, on the coast of Newfoundland, and thence to Cape Cod, and the other from Land's End, England, to the Scilly Islands, thence to St. Pierre and thence to Torbay, Nova Scotia. The capital of the company is to be 42,000,000 francs. Among the directors announced are General Z. C. Deas and E. J. De Brugiere, of New York. The prospectus states that the well-known English house of Siemens Brothers have undertaken the work of manufacturing and laying the cable and of building a steamer specially adapted for keeping the lines in repair. The receipts of the company, when its lines are in operation, are estimated at 40 per cent. of those of the Anglo-American Company, or 7,157,000 francs per annum.

It is stated that Mr. David Brooks, of Philadelphia, has sold to the Western Union Telegraph Company his patent right for a system of underground telegraphy, for and in consideration of the neat little sum of \$230,000. The patent consists in insulating telegraph wires in cotton, laying the whole in a wrought-iron pipe filled with petroleum. This is done to protect the wires from the moisture of the ground. The system has already been explained at length in THE OPERATOR. Experiments have been made with this system by the Pennsylvania Railroad Company, using it in its block signalings with marked success. The wires, incased in pipes, were laid in trenches beside the track. The purchase by the Western Union is for the patent right of the United States only.

HERR VON KRUPF, of Essen, has recently patented an invention for "improvements in electric light apparatus." The main object of the invention is to regulate automatically the position of the carbons of an electric lamp, "in a simpler manner than heretofore, without abandoning the generally acknowledged conditions on which the precision of motion of the single parts depend." The invention includes the application of a brake appliance for the automatic regulation of the distance between the two carbon points. A fan or fly revolves in quicksilver, or other liquid, for the purpose of regulating the motion of the carbon holder, this part of the apparatus being designed as a substitute for clock-work. A magnetic coil, with iron casing and iron bottom, is employed in connection with the motion of the break appliance.

THE British Government has recently connected Cape Town, by a line of telegraph, with Pietermaritzburg, the capital of Natal. This line Sir Bartle Frere proposes to extend to Pretoria, the capital of the Transvaal. The question is being seriously discussed at the Cape of prolonging the telegraphic line from Pretoria to Rete on the Zambezi; thence to Zanzibar, and from Zanzibar, between the two great lakes of the Nile, to Lado, on the White Nile, and from that point as far as Kartoum, where it would join the telegraph line which connects that town with Cairo and with Alexandria.

Tioga Railroad Company's Telegraph.

TIOPA JUNCTION, PA., 1879.

THE OPERATOR pays us its regular semi-monthly visits, and is always welcomed with pleasure and perused with great interest and benefit. I consider it to be just what such a fraternity as our's should put forth every effort to sustain, and strive to improve and enlarge its circulation until it shall be welcomed and supported by every operator in the land. If each operator would make an effort and contribute to its columns matters of interest occurring in their localities, they would add much to the usefulness of our paper, and encourage its managers. The paper should receive sufficient support to enable it to visit us weekly instead of semi-monthly. We of the Tioga & Elmira State Line Railway are nearly all subscribers to your paper, and are receiving large benefits from its perusal. We are situated in a very pleasant country, and have good outlets by wire and rail to the busy world, so that we enjoy life fully as well as though we were among the hurry and bustle of some large city. We have as competent operators as any line in our vicinity, and are careful to improve wherever occasion offers.

Our line extends from Elmira southward a distance of sixty-five miles to Morris Run, Pa. It is worked by nineteen offices. At Elmira general office "Ra" P. B. Guernsey controls the telegraphic department, and it would be a difficult matter to find a more congenial and competent man for the position. He is assisted by C. J. Willis, who operated at Glen Mountain House, Watkins, last summer. Proceeding southward we next enter Elmira commercial office "B. H." our connecting office with the W. U. main lines for New York and Buffalo. Here M. S. Palmer is manager, assisted by those well-known and competent operators, C. A. Scheffer and C. S. Staggs, with Mr. Barnum as press man. Passing out of the city we discover at A. L. Junction, "D. C." H. P. Kniffin. "D. C." is a block signal office, and requires a very careful and competent man, as our trains have to run by signal a short distance on the Northern Central Railway. But K. is always on hand and punctual to the dot. Four miles further south we find H. C. Mills, who divides his attention between baggage smashing and brass pounding at Wells. Next stop is Seeley Creek, where is stationed our oldest operator, G. T. Fuller. George is an old-timer, and it would require many days of travel to find a more jolly or witty boy. Further up the hill is Millerton, where W. L. Palmer presides over the "destinies that are." Mr. Palmer has not been long in the business, but shows decided ability, and, like wine, "improves with age." We now reach the "Summit" of the long hill and meet H. J. Tobey, who occupies the position of operator and agent. Tobey also runs, in connection with his depot, a profitable store, and has recently been appointed postmaster. Six miles down the other side of the hill we find Tioga Junction, the junction of the E. & S. L. Railway with the Old Tioga Railway to Corning. The business is attended to at this place by W. H. Bell. It being a transfer office, the business is at times quite brisk. The thriving village of Tioga is three miles south of Tioga Junction. Here we find H. S. Alford, an old-timer, operator and assistant station agent. Mansfield, next stop, is superintended by W. H. Kinney, operator and agent. Further on is Covington, W. H. Lamkin agent and operator. We next arrive at Blossburg, the headquarters of the road, where are situated the superintendent's and train dispatcher's offices; also the machine shops and round-house of the company. Looking into the dispatcher's office we behold Mr. Calkins, who has filled the position of dispatcher for three years to the satisfaction of all. "C." is an A. No. 1 operator, and wafes the electric fluid at a rapid rate when rushed, but it always comes almost as plain as if he were speaking to us. He is assisted in operating by L. W. Guernsey and E. L. Taylord, both good men. We now climb four miles of hill to Arnot, the mines of the Blossburg Coal Company, and discover F. H. Mills. Situated east of Arnot are the towns of Fall Brook and Morris

Run, both large mining towns. The former is presided over by Mr. Jones, and Mr. Pollock superintendent of the Fall Brook mines. The latter, Morris Run, looked after by T. V. Keefe, operator and clerk to Supt. Maring, of the Morris Run Coal Company.

We take great pride in our little line, and should be pleased to see any cause prosper which has for its object the promotion of the interests and conditions of operators, both commercial and railroad.

OMEGA.

Look Out for Him.

"Codoza," referred to in the following article, which we find in the Los Angeles, Cal., *Express*, seems to have swindled quite a number of telegraphers at different points. Our readers would do well to be on their guard. The Los Angeles *Express* says:

Mr. G. Q. Stewart, manager of the Western Union Telegraph office of this city, yesterday received the following letter, which is self-explanatory:

OFFICE NORTHWESTERN TELEGRAPH CO.,
FON DU LAC, WIS., April 1th, 1879.

MANAGER, LOS ANGELES:—Dear Sir:—A young man representing himself to be the son of Joseph Codoza, a wine-grower of your place, was here last night, and, if I am not mistaken, attempted to play a confidence game on me. He claimed that he had been robbed of \$600 in Illinois somewhere, and showed me a dispatch received from his father wherein he authorized the payment of \$400 to this man. Young Codoza had been unable to secure identification, and therefore could not get the money. However, at Delano, Minnesota, his objective point, he expected to find the money waiting for him, as it had been forwarded there by his father. He wanted me to advance him enough money to defray his traveling expenses to Minnesota. I got word of his doings along the road between here and Chicago, where he had obtained about \$20 from operators, and I let him slide. When he left he went southward instead of northward, as he said he was bound when he told his story. If he is the party he claims to be, I should regret having denied him the favor. He claimed to know you well; said you were a Frenchman; that you had eight operators in your office; and he told me all about the place. I presume he is a fraud.

I remain yours truly,
A. E. SHAPE,
Manager N. W. Tel. Office.

Inclosed in the letter was a card which young Codoza had handed to the operator of Fon du Lac by way of introduction. It bears the following:

JOSEPH CODOZA. GEORGE CODOZA.
JOSEPH CORDOZA & SON,
Manufacturers of and Wholesale Dealers in
WINES AND BRANDIES.
337 WINE DUCT STREET,
Los Angeles, Cal.
Grape Culture a specialty.

Our own citizens need not be informed, of course, that Codoza is a thorough-paced beat; but, for the benefit of those at a distance who have been imposed upon, we will state unequivocally that he is such. There is not in Los Angeles, to the best of our knowledge, any such person as Joseph Codoza, neither George Codoza, neither such a firm as Joseph Codoza & Son. There is no street in the city known as "Wine duct Street," and no such number as 337 on that street. In short, this large firm of manufacturers and wholesale dealers in wines and brandies, with grape culture a specialty, is a delusive myth. If it exists anywhere, it must be in the eye of the young gentleman who tried to do the operator at Fon du Lac.

Mr. Stewart informs us that he has heard of the operations of the supposable Codoza in Michigan,

Minnesota, Illinois, Iowa, Missouri, and, lastly, in the present case, in Wisconsin. From this it would seem that the wine merchant's son has quite an extensive field of operations. He is a sharper of large ambitions and great industry. The fact that he is an intimate acquaintance of our friend Stewart (the Frenchman, who knows nothing about him), is nothing to his credit. He must be branded as a traveling bilk of the first water, and, as such, we warn the public at large to beware of him.

A Lecture to Ticket Agents.

Colonel Forney, in the *Progress*, reads a lecture to ticket agents which should be appreciated and indorsed by the public. He says: "Nearly all of us have growled at what we consider the brusqueness, if not downright impudence, of ticket sellers at railroad stations, in theatre box offices, and of hotel clerks. These ladies and gentlemen, for occasionally nowadays you find a woman selling railroad tickets and doing similar duty, frequently are peevish and short in answer, all of which is exactly what they ought not to be. They are paid for their work; much or little, it matters nothing; when they accept the office they agree to the pay, and a very important part of that work is to treat the customers of their employers with studied politeness. That the public has a right to expect of them. But is nothing required of the public in return? Reference is not intended now to those stupid creatures who ask silly questions and who wear away alike patience and time. Nothing will ever change them; their ignorance is too deep seated ever to be dug out. But there is the man who addresses the hotel clerk as if he was his special lackey, who bangs at the window of the theatre as if the gentleman inside the office was there only to be bullied. This man knows better; he is fully aware he is doing something out of the common, but he does it to attract attention to himself, and succeeds at the cost of being set down as a ruffian. He presumes on the position of the person he insults; he would not dare to so act towards him were he to meet him away from his duty. He is therefore a cowardly, mean fellow."

Telegraphic Matters in Brazil.

I was recently requested by Mr. Herbert W. Stent, the well-known telegrapher, to write THE OPERATOR a few lines on telegraphic progress in this country. I little thought, when the request was made, that the first item would be to announce to the fraternity the very sudden and unlooked-for death of Mr. Stent himself.

Mr. Stent came to Brazil in the early part of last year. With his knowledge and ability in electrical science, he soon won a name for himself, and in a surprisingly short time had several very good contracts for private work, but, being of a somewhat restless disposition, he went to Sao Paulo, the capital of the province of the same name, where he did considerable work on the estate of Mr. Charles Duley, as well as completing a set of electric bells for the Grand Hotel. Returning to this city, he made a contract with the Botanical Garden Railroad Co., for a private line, to use the Gray Printer, but ere he had time to commence the work, he was taken with yellow fever, and, notwithstanding that every effort, aided by best medical advice, was made to save his life, in forty-eight hours was a corpse.

I am sure the fraternity will deeply feel the loss occasioned by his death. It is a severe blow to the introduction of American electrical work in this country, as he was just beginning to successfully combat the foreign monopolists, proving by clear, practical demonstration our superiority in this line.

The telegraphic system in Brazil needs regenerating, and it requires American ideas and progress. The entire system is English and German, interwoven with a little French. Telephones were introduced by a French house, but, as yet, have not proved a success. Automatic Printers, for private lines, have never been used. Burglar alarms are as yet unknown. Gamewell's fire

alarm is now being put up in this city by the Government. The boxes and instruments are manufactured in their shops.

Scientific men are on the *qui vive*, for Edison's electric light, and all developments that are made in that direction are eagerly awaited for.

In reference to telegraphs and land lines, I had the honor of being employed by the Government, in the province of Rio Grande do Sul, in 1874, on construction. The construction (as nearly all the roads are built in the country) was of Siemens's material, No. 9 iron galvanized wire, iron posts, and porcelain insulators. The instruments are English Morse, printers, single and double key, with register. I have not seen a sounder since I came to the country, except some Stent brought with him.

The cable is working regularly, and, from what I can learn, is doing a fair business. Matter on electrical progress is so scarce that I am compelled to finish with hoping that some kind friend will send me a few papers, that I may at least consider I am not forgotten by the "old timers." "73" to all! Yours, M. F. ADAMS,

No. 3 Rua d'Affandega, Rio de Janeiro, Brazil.
February 25, 1879.

A Base Ball Challenge and Acceptance.

The following challenge, of which a copy was also sent to the Captain of the New York W. U. Base Ball Club, explains itself:

To Captain W. U. Operators' Base Ball Club, New York City:

DEAR SIR—In behalf of the Western Union Club of this city (Boston, Mass.), I hereby challenge you to a match game of base ball, to be played in New York City or vicinity June 7th, 1879, for the "telegraphers' base ball championship of the United States"—a copy of the above challenge to be published in THE OPERATOR May 15th, with your acceptance or non-acceptance of the same. We are very desirous of having this long-disputed question of who are "champions" definitely settled, and hope you will give us an opportunity at the time stated above.

Very respectfully, J. H. STORIN,
For W. U. Club, Boston, Mass.

A meeting of telegraphers was held in this city on Friday evening, May 9th, to discuss the above challenge. George Sawyer was chosen chairman and P. J. Tierney secretary. On motion, a committee of three, consisting of Messrs. Welsh, Baldwin, and Cushing, was appointed to select a suitable nine, after playing a practice game. The following acceptance of the challenge was then sent:

J. H. Storin, Esq.:

DEAR SIR—We accept your challenge to play us a game of base ball on Saturday, June 7th, on the Prospect Park base ball grounds, Brooklyn. The names composing our nine will be published in the next issue of THE OPERATOR.

Yours respectfully, P. J. TIERNEY,
Secretary W. U. B. C.

New York, May 9th, 1879.

The nines chosen to play a practice game the following day, were:

SAWYER'S NINE.		TIERNEY'S NINE.	
Finger.....	C.	Neilon.....	C.
Shannon.....	P.	Kane.....	P.
Wilcox.....	S. S.	Keliber.....	S. S.
Dennin.....	1st B.	Mitchell.....	1st B.
Ballard.....	2d B.	Richmond.....	2d B.
Sheehan.....	3d B.	Bradley.....	3d B.
Poster.....	L. F.	Young.....	L. F.
Wright, Jno.....	C. F.	Empey.....	C. F.
Sawyer.....	R. F.	Tierney.....	R. F.

The Electric Merchandizing Co.

We are glad to learn that the above company is prospering. The Chicago correspondent of the New York Mercantile Review says: We think no one can question but that this is the business age of the world. Other ages have been celebrated for this, that, and the other thing; but the present one attends strictly to business, as you might say. There is scarcely any material too delicate or rare, or any element too subtle, but is made to contribute to the employment of larger or smaller portions of the human race, and considerable sums of capital. Such great progress are we making, that there are pursuits prosecuted now with very good results that one never heard of a few

years ago. The Electric Merchandizing Co., of 76 Market Street, this city, are manufacturers, importers, and dealers in telegraph machinery and supplies, medical apparatus, burglar alarms, automatic fire alarms, house and hotel annunciators, electric light, electric gas lighting, electric railway signals, etc. This is a joint stock company, the officers of which are: Geo. H. Bliss, president and business manager, and W. H. Harrington, secretary and treasurer. These gentlemen, by reason of long experience and perfect familiarity with the business, are able to fill their responsible positions with credit and dignity. At present writing the company are doing a great deal of work for telephone companies, and rent Bell telephones, and furnish supplies. Not only have the company plenty of work to do at local centers, but are engaged on contracts all over the country—east and west—and the outlook is first-class.

Pittsburgh, Pa. Notes.

Although I believe there have been no communications from this locality for some time, the amount of telegraphic news which has accumulated is so small as to scarcely justify a letter from here. I shall, therefore, be compelled to assume the role like John Oakum, of "a snapper up of unconsidered trifles." First in importance, perhaps, among these minor occurrences, was the operators' walking match (for we don't intend to be altogether put in the shade by your New York W. U. athletes), which took place at the Friendship Park race track, on the 2d inst. There were seven entries, the walk being three miles, and the match was won by the youngest and smartest contestant, "Frankie" Harner, one of the night check boys, who left the perspiring six far in the rear before the first circuit of the track (a half mile one) was captured. In fact, your correspondent, who, I regret to say, was one of the aspirants for pedestrian honors, ignominiously quitted the track at the termination of the first half mile, and the remaining five dropped off one by one, leaving the gallant Alleghenian to walk the last mile alone. His time, if I remember right, was thirty-one minutes fifteen seconds for the three miles. Of course the excuses of the losers floated around freely; Mr. Ryan had a corn on his heel, Mr. Mercer had overexerted himself the day before in his new paper shell on the Allegheny, Mr. McCloskey had wasted all his surplus energy in grinding an Italian message into the gentlemen who officiated it, Wooster the previous night, etc., etc. Eitemiller, of the night force, is the father of a fine, nine-pound boy, who arrived last night. The Central District Telegraph Company is being quite successful in its introduction of the telephone system in this city; their wires are being run over the house-tops in every direction, and they have found it necessary to devote a separate room to their telephone, the printers and Morse's lines retaining their old quarters. Quite a sensation was created last week by the appearance in the Dispatch of an article "going for" Marion Ogden, formerly an operator at this office, but who for the past two years has been connected with various newspapers here in the capacity of reporter.

Dashes Here and There.

This country has on its surface 179,204 miles of telegraph wire. Does any one cipher more?

The electric light is now used to light up the circus, so that the audience can see the jokes of the clowns.

Every one should know that a prompt shock of electricity will restore a person to consciousness who is dying from the effects of chloroform.

There are prating coxcombs in the world who would rather talk than listen, although Snapspeare were the orator, and human nature the theme.

The young artist who transformed "chiropodist" into "cheer up dearest," had certainly a strong plea for forgiveness, at least from the ladies. It cannot be denied that it was, at any rate, creditable to his heart, if not to his head.

An English writer says that deaf persons—or, at least, persons very hard of hearing—can hear even a whisper spoken into a string telephone, the string of which is carried to their forehead and fastened round the head in a loop. The instrument he uses is a tin pot about the size of a tumbler, having a parchment diaphragm.

Some rules were made to be observed; some were made to be broken, and some should never have been made at all. There are a large number of the latter kind at present in force in the service that might advantageously be dispensed with. The greater the number of rules, the greater the incompetency of the management, is a safe rule to go by.

I owe much to the Health Food Co.'s preparations. For one year I have used them daily, and they have lifted me from terrible pain and misery to a state of comfortable health. So long as I use them I have no dyspepsia. How I could live without them, I do not know. The sick should send to the Health Food Co., 74 Fourth Avenue, New York, for free pamphlets.—J. M. YOUNG, 210 W. 14th Street, New York.

We recommend to the potentates of Europe the following telegraphic form, to be left at the nearest office of the Western Union, to be filled up by the operator: "To His Royal Highness—Accept my congratulations upon your escape this morning from the bullet [or knife] of the assassin. Providence certainly protects you, but let me again urge you to have your life insured. Regards to your wives. [Signed] ———. —Ex.

The authorities of Cleveland, Ohio, have made a contract to light a large portion of the city with the Brush light. The lamp posts, which are very ornamental, and twenty feet high, have all been erected, and it is expected that the lamps will be placed in position in a short time. The results of this generous experiment in electric lighting, says the *Scientific American*, will be noted with great interest by the public in general, and electricians in particular.

Danbury, Conn., is to have a telephone exchange. For \$4.50 a quarter, the Telephone Dispatch Co. will put up an apparatus in any house or factory, and connect by wire with their offices. A resident in the suburbs can, on sending a signal to the office, be placed in communication with another in a distant part of the town, and all chance of their messages being overheard is prevented, as that line will be isolated for the time being. Doctors can be summoned or medicines will be procured by boys. Bridgeport has also a line.

A portable apparatus for indicating accumulations of fire damp has been invented by M. Coquillon. The "Grisomètre," as the instrument is called, is founded upon the fact that a red hot platinum wire decomposes light carburetted hydrogen in presence of steam. A coil of this wire is heated by a small electric pile, and the rate of decomposition, as indicated by the glow of the wire, becomes the measure of the quantity of gas in the air of the mine.

The combinations formed by the operators' signals are frequently of a most amusing and sometimes of a very perplexing character to the recipient of the message. One man wanted to know what "cow" meant after the word "paid," and was inclined to be somewhat indignant at the manner in which his messages were bungled up; but when he left he was considerably cowed, and very much subdued in manner. A list of the above would no doubt be an interesting compilation.

I was often puzzled to know why "N. Y." operators said "mnt; cus." In an outside office one would suppose they were busy with some one, sending a message. Such customers, however, do not go to the operating room in New York. But last week I found out who their customers are. One of the night-men put in one of his usual "mnt; cus." After a few minutes he closed the key, saying, "G— is after another chew." It would be interesting to know why the ladies say it—will some one explain? Q. Z.

The field telegraph apparatus sent to Lord Chelmsford by the British Government consists of a wagon composed of a strong but simple framework on ordinary wheels, supporting on revolving spindles six drums or reels of telegraphic wire, the movement of a lever and clutch causing the vehicle either to lay or pick up the wire as it passes over the ground. The barrow carries a single drum, and is mounted on wheels only two feet high, with a two foot track. It resembles an ordinary hose-reel, and is so light that

it can be run over the field by one or two men, and can, therefore, be of use during an action. Each drum carries 133 pounds of wire. The wagon carries telegraph poles, a ladder, and tools for constructing an "air line." The poles consist of iron tubes, in lengths of about ten feet, uniting by a bayonet joint and secured by three guy lines. A few sets of electric lighting apparatus and portable engines have also been sent. The force under the command of Lord Chelmsford does not seem even to have been provided with Mance heliographs.

Ehoses from 197, and City Items.

Gib Merrill is confined to his room, suffering from erysipelas.

Miss Fannie Martin works the Springfield, Mass., wire, and delights the New Englanders with her good Morse.

George Merrifield has pulled up stakes and left for Utah. We never know your value 'till we! lost you. Never? Well—

Mr. T. P. Scully, the courteous gentleman who presides at the Philadelphia printing motor, has resumed duty after a long illness.

Among the "subs" may be mentioned Messrs. Robt. Martin, Howey, Flood and Boyer. O'Brien and Campbell contemplate a trip to South America.

The message was from Rondout, N. Y., going to the U. S. nasty yard, San Francisco. The Chicago man intimated that it might be navy yard. This was on the senior chief.

He was an operator. 'Twas pay-day night. Wife found him at the gaming board, 28 cases to windward. She quietly demanded the money from the dealer, and walked ye delinquent home "Spanish fashion."

When a man has been made a chief, and then seems to forget how to be a gentleman, don't lay the blame on the position, or say "some people can't bear prosperity." It will be safe to assume, however, that he never did know how to be one. All that he lacked was an opportunity to make that fact known.

When necessary repairs or alterations are asked for by an office, and indorsed by the superintendent, the talented young vice-president quietly informs his representative (who is still younger, but not quite so talented) to take a walk round that way at an unexpected moment, and slyly interview the office and surroundings, in order to satisfy himself that it is not a scheme to abstract another dollar and a half from the already much depleted strong box. Genius is bound to come to the front.

It might reasonably be supposed that the men who have spent their whole lives, and who have grown gray in the service, would feel slightly mortified at being obliged to look up to, as a superior, a talented young vice-president who has gained his extensive knowledge of the business in a few hours, as it were. But such is not the case. They are sincere admirers of his talent, and proud to recognize him as their leader. The person who wrote this is always serious when he smiles, and an owl would be an irresistibly funny bird in comparison with him at the moment of penning it.

The annual games of the Stevens Institute Athletic Association took place on the Institute grounds, in Hoboken, May 3d. There were numerous entries for the 100-yard dash, open handicap, in three heats. The first heat was won by F. E. Wilcox, of the Western Union Telegraph Company, in 0:11. H. Harway, of the Stuyvesant Park Athletic Club won the second heat in 0:11½. The third heat was won by D. B. Mitchell, of the Western Union Company, in 0:11½. The final heat took place later in the games, and aroused much excitement among the spectators. Mitchell distanced the leaders in the other heats, winning in 0:10½.

The men of the A. D. T. Co. look upon the system of fines for the most trifling cause—the, perhaps, unconscious violation of some absurd rule practiced upon them, as not only very unjust; but, also, as illegal. Their by no means munificent salaries, can ill afford to stand this additional curtailment. It has been reported that one of them kept a record of all such amounts, in anticipation of the time when he might find it advisable to sever his connection with the company. When that time did arrive, he handed the items to a lawyer for collection. On their

being presented by that gentleman to the superintendent for his consideration, the bill was sent to the auditor without question, to be afterward liquidated by the treasurer. This is the story that is in circulation, and if it be true, it might be well for those remaining to keep track of their involuntary disbursements.

The officers of the American District Decoration Day parade have been selected from the managers of the company, and are as follows. Robt. Tighe, colonel commanding; Abram Merritt, aid-de-camp, and R. P. Byrne, J. C. Turrell, Supt. Rider, Mr. Watson, and J. McVicker, captains. It is expected that the parade will outstrip that of last year. A band is to be provided by Supt. H. W. Pope. All the officers are men who have done "service" in the company. Mr. Turrell was the man who gained such renown for putting out an extensive conflagration in the Union club; Mgr. Byrne for capturing no end of forgers and burglars; Mgr. Merritt for bravery on the night of the panic at "Gilmore's," and the others are noted for acts which have been heretofore published. The line of march will be published in the N. Y. Herald in a few days. The battalion are drilling daily, and present a fine appearance.

PERSONALS.

Mr. J. N. Allen is receiving night report for the W. U. office at Dubuque, Ia.

Frank Beane, who has been subbing in general office C, & N. W. R. R., at Clinton, Iowa, is now rushing the hawk-eye natives from New Jefferson, Ia.

Miss Jennie Moore, manager at Tipton, Iowa, who nearly "reached the other shore" during her late severe illness, is now rapidly convalescing, to the joy of her many friends.

Wm. Flitcroft, operator for the N. J. M. Ry., has been transferred from Pompton, N. J., to train dispatcher's office, Jersey City, same road. Mr. J. R. Kincaid fills the vacancy caused by the transfer.

A telegraph line is about to be erected along the Watchung railroad, connecting the residence of President Jewett, of the Erie Railroad, with the offices of that road. Mr. Jewett resides at Orange, N. J.

Mr. A. W. Gray, of Cardigan, Ohio, has invented a system of fire alarm which is highly spoken of by the local paper. An exhibition was recently given at that place. Mr. Gray intends putting up a fire alarm line at Cardigan.

The changes in this part of the country, on account of the arrangement between the W. U. and P. R. & P. Telegraph Co's., are too numerous to mention. Some operators of both companies have been left out in the cold, and are looking around for something to do, while others have been advanced to more importance.—Yours, C. M. D., Reading Pa.

At a meeting of the telegraph operators along the line of the Paducah & Elizabethtown Railroad, held by wire May 7th, for the purpose of taking suitable action upon the death of their late trainmaster, P. Stewart, it was resolved that as a token of the high regard entertained for the deceased, the several offices along the road be draped in mourning for the space of thirty days; and it was also recommended that all trains upon the road be likewise draped.

Among other contributions received by Mr. Crosby J. Ryan, since the notice in this column last issue, were \$10 from the Washington office, through Mr. W. W. Burhans; \$2 from Mr. W. P. Phillips, of the Associated Press, Washington, and assistance from Mr. C. S. Miner, of La Perre, Mich., and others. Letters addressed to Mr. Ryan, care Western Union Telegraph Office, Detroit, Mich., will reach him. He is still in need of aid. Read the remarks of our Pacific Coast correspondent on this subject, in another column, and relieve Mr. Ryan's present necessities by sending him what you can.

Mr. Cyrus W. Field's action in erecting, at his own expense, a monument to mark the spot where the English spy, Major John Andre, was executed, (October 2d, 1780), gives much offence to many patriotic Americans, who think that a monument to the American soldiers who have laid down their lives in the cause of liberty and the Union, from 1776 to 1865, would have been in better taste. Some even go so far as to think that Mr. Field is trying in this manner to curry favor with England; and it has been sneeringly suggested that perhaps some patriotic citizen may be instigated by the generosity of

Mr. Field to come forward and erect a monument to J. Wilkes Booth—that, too, being a great historical event, and quite as appropriate as the proposed memento to perpetuate the memory of the polished English spy.

Much credit is due to Mr. William McFarland, of Boston, for his skill, pluck, and endurance in sending the matter which appeared in the Boston dailies yesterday morning. When the reporters received their orders to go to Pocasset, they went to the Western Union Telegraph Company to obtain the services of an operator, as they expected to have more matter than the regular operator could despatch. Mr. McFarland was sent, and from 11.30 o'clock on Friday night until 4.30 o'clock Saturday morning, he stood at his post and sent at least 8,000 words. He will long be remembered as the friends of the boys at the time of the Wollaston disaster. He was on that ill-fated train, and after the accident, cut the line, put in a temporary instrument, and sat out of doors all night sending the news over the country.—*Boston Globe*.

There was a wedding in Portland, Me., on Wednesday. Miss Ida I. Baker has been for a number of years operator in a Western Union telegraph office in that city. Among her friends was a lady operator in Newburyport, Mass., who visited her. The latter had a brother, a shipmaster, and she made up her mind that that brother should marry her friend. The rest of the story the *Eastern Argus* tells thus: "So she wrote to her brother, painting in the strongest lights the accomplishments and good qualities of Ida. So much pleased was he with the description, that even before they had seen each other they became engaged. Four or five weeks ago Mr. Charles H. Hemingway and Miss Baker met for the first time in Boston. A personal acquaintance only the more favorably impressed each with the other, and before a week had passed a day had been set for the wedding."—*N. Y. Times*.

In these days of stagnant enterprise it is interesting to note the energy of a party of messenger boys in Philadelphia, who are engaged in extending and working a telegraph line which a year ago was but a single span, reaching across one street. Even this circuit was creditable, for they built it without any assistance from others. Since then, however, they have extended their wire, from time to time, until it reaches three miles, and connects a half dozen offices. It is a stock concern—each person connecting with it becoming a subscriber. There is a president and a cashier, who are elected to serve one year. This company style themselves "The Enterprise Line," and their object is to connect with as many houses as may desire to be connected. They are in constant receipt of such applications, and their future certainly looks promising. Their president is Mr. Otto Luedeke, of 231 Greene St., Phila. F. R.

A certain "genius," who emits considerable of the college odor in his work, some time ago, in reporting the prospect for high water in a well known river traversing the western portion of Pennsylvania, amazed his hearers by saying that "River men full." Just here his ambition was checked. It proved too much for "old experience" on the other end, and, after some time spent in parleying, he thought it might be, "River men feel," etc. This same "worthy," a few days since, in transmitting a message which contained the inquiry, "Has Blair's brick been shipped," made himself the object of considerable merriment by insisting that it read, "Has Blair's buck," etc. At the suggestion of the receiver, however, he admitted it might be brick. We can only attribute this to the "degrading" system, and believe the above to be only one or two of the many "freaks" of which he seems capable. Aside from this, 35 holds her own, and can boast of having as congenial a force as any circuit in the country. THE OPERATOR has many subscribers in this city and vicinity: success to it. I do not know what we should do without it. R. E.

MARRIAGES.

ANSON—CRAWFORD.—On Thursday, April 16th, by Rev. J. B. Williams, Mr. Edward Anson, of the W. U., to Miss Maggie Crawford, of the A. & P. Telegraph Company, New York.

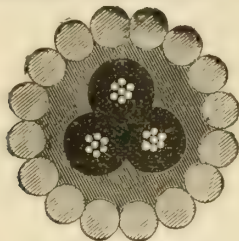
DEATHS.

April 15th, at North Sydney, C. B., Mr. Charles Coleman, of the Western Union office.

W. J. JOHNSTON, Publisher,
P. O. Box 3,332, New York.

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Original and only Manufacturer in the U. S. of
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422, 424, 426 E. 25th St., NEW YORK.



Established in 1847.

S. BISHOP, - - - Proprietor

of the BISHOP GUTTA-PERCHA WORKS, begs leave to announce the acquisition of the exclusive right within the United States and the Territories thereof, to manufacture and sell Gutta-Percha Covered Wires of every description, under Letters Patent of the United States (No. 65,019), dated May 21, 1867, granted to Geo. B. Simpson, now owned by Clinton G. Colgate, for the use of Gutta-Percha as a covering or insulator of wires for atmospheric or submarine telegraphic communications or for other electrical purposes, the validity of said Patent having been established by a decree made by the Circuit Court of the United States, held in the City of New York, dated Dec. 8, 1878.

The *Insulating Properties of Gutta-Percha* for Submarine Telegraphic Cables have been thoroughly tested for the past thirty years, and for subterranean purposes after many tests in Europe, and a continuous use in this country for seventeen years, its superiority is conceded over all other insulating materials and compounds.

Submarine Telegraph Cables, 50 varieties, one to ten conductors.

Submarine Telegraph Canal Cables—any number of conductors.

Aerial and Underground Cables of all styles. Hemp armor covered.

Lead Covered Telegraph Cables, one to seven conductors.

Office Cables, one to seventy-five conductors, gutta-percha and cotton covered.

G. P. Insulated Wire of all sizes.

Fuse Leading and Connecting Wires for submarine and mining purposes.

Marks' Compound Office Wires, various sizes for office, underground, and out-door use.

G. P. Office Wire, cotton covered.

Flexible Elevator Cables, any number conductors desired, of every style, and for all purposes.

Compressed Electric Cotton and Linen Double and Triple Covered Cordage, any style or pattern.

Burglar Alarm, Call Bell and Annunciator Wires, double cotton wrapped and saturated with any preparation.

Magnet Wires, copper and German-silver cotton, silk and fibre covered.

Copper Wires, specially covered for electrical lightning purposes.

Telephone Flexible Cords and Magnet Wires, finest and best manufactured.

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(Corner of Race),

PHILADELPHIA, PA.

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All Wire used is thoroughly tested for conductivity, thereby insuring purity and regularity of resistance.

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It is the assignee and owner of all the patents granted ALEX. GRAHAM BELL, and these cover all forms of Telephone hitherto devised. Manufacturers and users of other Telephones are infringers upon the rights and property of this Company, and will be held responsible in damages.

The District or Telephonic Exchange System of this Company, by which parties in different places can be connected and converse, is in successful operation in Boston, New Haven, Albany, Chicago, St. Louis, Cincinnati, and many other places.

These exchanges can be advantageously introduced into almost every city and large town where there is a Telegraph Operator.

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The Best Out.

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PRICES—Complete Outfit, as above, cash with order \$5.00
Instrument, without Battery..... 4.30
" " by mail..... 4.75
" " wound with fine wire for lines 1 to 15 miles in length..... 5.00
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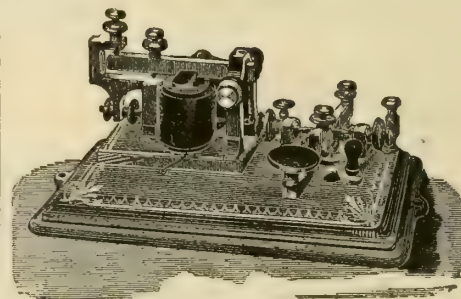
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JEROME REDDING & CO.

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No. 1 Outfit, including Instrument, one Cell Calland Battery, Chemicals, Roll of Office Wire, and an excellent Book of Instructions..... \$5.00
Instrument, alone..... 4.20
"Gem" Learners' Complete Outfit..... 4.20
" " Instrument, without Battery..... 3.40

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The OPERATOR

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THE OPERATOR.

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TENTH VOLUME.

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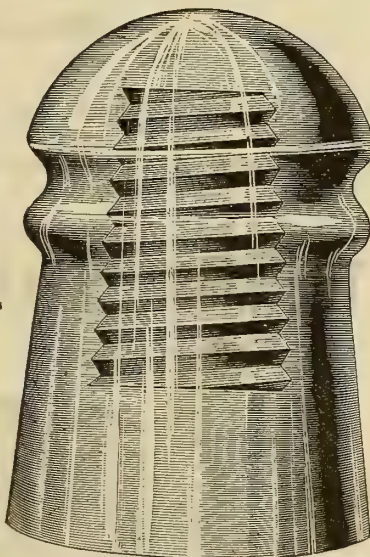
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" 7 " " " " "	"	470	"
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The necessities of the telegraph business requiring an indestructible insulation, stimulated me to the discovery and perfecting of my compound known as Kerite, which combines the great advantage of durability with perfect insulation.

Kerite insulation is proof against the action of the corrosive elements in the earth, air, and water; and, where it has been practically tested, has proved its superiority to all other insulation.

Durable Qualities of Kerite.

It is not injuriously affected by the extremes of heat and cold experienced in our climate, nor by length of exposure in the atmosphere.

It will endure long-continued heat below 200° Fahrenheit, while for short intervals it may be subjected to 250° to 300°; and it may be safely immersed in boiling water.

The action of water, salt or fresh, not only protects all its qualities, but very much improves its insulation.

It is also unchanged by being placed in the ground. Any corrosive elements in the earth do not act upon it; nor is it injured by the roots of plants, which soon destroy gutta-percha.

There are thousands of miles in use throughout the country, by Fire Alarm and other Telegraph Companies of all our principal cities.

It has been used largely in the city of New York, under all conditions and exposures, for the last nine years.

Constant exposure to the sun and atmospheric changes are the severest tests that can be given it in practical use.

EMINENT ELECTRICIANS AND PRACTICAL TELEGRAPHISTS commend and recognize the Kerite insulation as superior to all others.

GEORGE B. PRESCOTT, Esq., Electrician of the Western Union Telegraph Company under date of Sept. 25, 1874, says:—"In September, 1869, we placed some of your Kerite wire, unprotected by any covering whatever, in the tunnel under the river in Chicago, and have since continued its use in that exposed situation with the most gratifying results. A portion of the tunnel is very wet, and water saturated with lime constantly drips upon the wires, while in other portions they are kept alternately wet and dry, which is well known to be one of the severest tests that any insulating material of an organic nature can be subjected to; and yet after five years' exposure, under the above conditions, the Kerite covering shows no signs of decay or deterioration. An insulating covering of India-rubber or gutta-percha under a like exposure, would have been destroyed in much less time."

February 12, 1877, he writes further, "This piece of Kerite wire, unprotected by any covering, was in use in the tunnel under the river in Chicago from Sept. 1869 until December, 1876, and shows no signs of decay or deterioration in its insulating qualities."

Prof. MOSES G. FARMER says, "I have used your Kerite as leading wire more or less for four or five years. It stands abuse, changes of temperature, alternate wetting and drying better than any insulator I have tried."

MESSRS. JAMESWELL & Co., proprietors of the American Fire Alarm and Police Telegraph have used the Kerite wire for ten years. They say: "We have placed it in use in some sixty cities extending from Halifax, Nova Scotia, on the north to New Orleans and San Francisco, on the south and west, embracing every variety of climate, and it has proved itself to be, under all circumstances, the most reliable and indestructible insulator known to us for telegraphic purposes."

Mr. M. A. HARDY says: "I have used it not only in this country, but also in Egypt, where it was subjected without injury, to the most severe treatment. * * * I also had the Kerite cable for several months in the Mediterranean Sea, and always found it reliable and unaffected by the ravages of 'teredo'."

Many other equally favorable and satisfactory commendatory letters are in the possession of the proprietor.

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Insulators,
Brackets,
Batteries,
Switches,
Conducting Cords,
Call Bells,
Insulated Wires, Etc., Etc.

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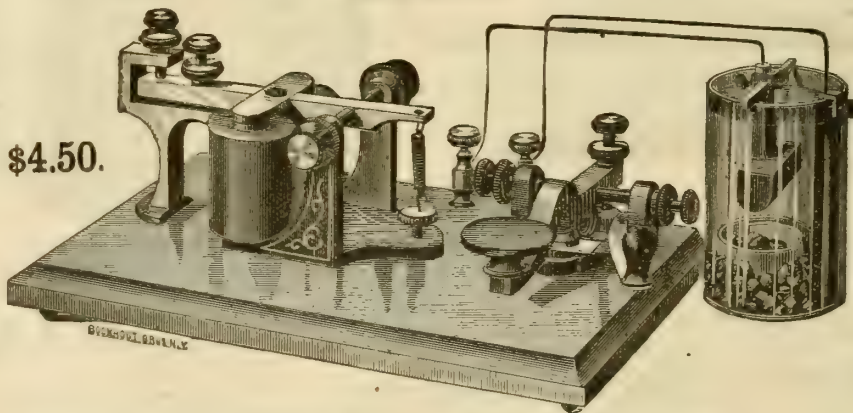
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Instruments without Battery, \$3.80; same, by mail, postpaid, \$4.30. Instruments without Battery, wound with fine wire for lines 1 to 15 miles, \$4.50; same, by mail, postpaid, \$5.00. Cell of Battery, 65 cents. Instruction Book, 30 cents. Galvanized Telegraph Wire, per 100 feet, 30 cents. Remit by Postal Money Order, Draft, or Registered Letter.

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THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

June 1st, 1879.

Volume X.

Whole No. 127.

The Manager's Song.

Tune—Captain's Song from "Pinafore."

SCENE—COAT-ROOM, 197.

Dramatis Personæ.

The manager, chiefs, operators, clerks, and office boys; some of the merry sisters.

Manager—I am manager on this floor!

All—And a very good manager, sure!

Manager—B'lieve me when I tell,

You please me very well;

Your equals are hard to procure.

All—We b'lieve him when he tells

That we please him very well,

And our equals are hard to procure.

Manager—I know it is a vex

To work a quadruplex,

Or use a gummy key;

I was never known to break,

Or any bulbs to make,

And I'm never, never late, you see.

All—What, never?

Manager—No, never!

All—What, never?

Manager—Hardly ever!

All—He's hardly ever late, we see;

Then wish him luck, with much in store,

For the jolly manager on this floor;

Then wish him luck, with much in store,

For the manager on this floor.

Manager—My earnest endeavor is to please you all,

All—And you do that to a "T!"

Manager—Well, that is very good,

And it's only meet I should

Thank you heartily!

All—Well, that is very good,

And it's only meet he should

Thank us heartily!

Manager—I never rave or scold

When business is old

On the sending side of three;

I'm sure you needn't fret

When a little "stiff" you get,

Signed with a big, big D.

May 20, 1879.

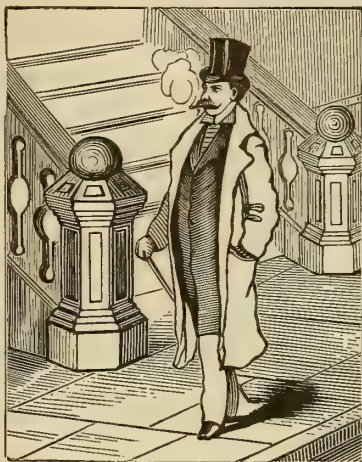
G. PALMER BARNES.

"Prosperity and Adversity."

The title would seem to indicate a thrilling romance of some nobleman's son, born amid scenes of wealth and happiness, and who, by sad misfortune, had been precipitated into the direst misery. Such, however, is not the intention. Our sketch merely represents the average telegrapher. This fact alone would seem to be conclusive evidence of his never having possessed an extraordinary amount of filthy lucre, nor sat in the lap of luxury for any length of time. It has become almost proverbial that an operator is wealthy only twice a month, the 1st and 15th. This, so to speak, is where he begins at happiness, and ends up with wretchedness. On the eventful pay-day if he be a "day man," he goes from the office at night light hearted to his home, dons his best suit, disguises himself with a clean shirt and other articles that have been a stranger to him since the previous pay-day, and starts out to meet the boys, and have a good time. Sometimes he drinks whiskey, it is said, but this is merely a rumor, and scarcely to be credited. If he be a night man he hires a sub—provided he can find one, which is an exceedingly difficult matter at this eventful period in the month. If he lives on the European plan he pays extravagantly for his dinner, probably as much as would on ordinary occasions buy enough to satisfy him for a couple of days.

After the third of the month prosperity begins to fade somewhat—quail on toast, and other luxuries with which for the three days that have gone he has been wont to regale himself, must now give place to articles of food which people in ordinary circumstances are obliged to put up with. Stern necessity compels him to accept roast beef as a

means of alleviating his hunger. This, of course, is somewhat humiliating after his three days of opulence, but necessity sometimes strengthens the weakest of us. Thus he suffers for about a week, when things begin to look more discouraging than ever. His appearance does not betray that bandbox



PROSPERITY—PAY-DAY.

impression consistent with neatness of personal attire so conspicuous on pay-days. This is a farewell to prosperity. Pork and beans now come in for a position upon the bill of fare, and even for these he is grateful. Coffee and cakes are a luxury, and, in fact, he does not despise anything that may be devoured with safety. About this time all his



ADVERSITY—TWO DAYS PREVIOUS TO FOLLOWING PAY-DAY.

ambition is aroused, and "extra" work is eagerly sought, but, as his desire is merely to work for cash, and most of his comrades are also pecuniarily embarrassed, his efforts are rarely rewarded with success. About the 13th of the month he fishes up his last quarter from the depths of his pocket. This serves as an introduction to free lunches, and sustains life until pay-day once more arrives. Vo.

Mr. Preece on the Electric Light.

Mr. W. H. Preece, electrician of the English Postal Telegraph Department, delivered an interesting address May 7th, at the opening of an exhibition of electric light apparatus at Albert Hall, London. Among the audience were the Prince of Wales, the Duke of Edinburgh, Prince Christian, several dukes, and other distinguished persons. The most brilliant luminary we possess, said Mr. Preece, is the sun; the worst is the farthing dip or rushlight. Between these we have various modes of artificial illumination dependent on the consumption of tallow, wax, oil and gas, and on electricity. All these systems owe their luminosity to the same cause—heat. The hotter the body

the greater the light. Hence the production of brilliant light simply depends upon the production of intense heat, and the best light is that which concentrates the greatest amount of heat on the smallest quantity of matter. [These points were illustrated by experiment.] Heat can be produced by various chemical, physical, and mechanical processes. But the greatest concentration of heat can be produced by electric currents in overcoming resistance. When the resistance is the air itself, the *electro-arc* is the result; when it is a metal or a carbon rod, we have light by incandescence. Hence, in the production of the electric light the principal question that we have to solve is the production of currents. This was solved by Faraday in the year 1831, who showed how it was possible by the mere motion of a wire in the field of an electro-magnet, to convert the muscular energy of the arm into the energy of electric currents, and thus to produce heat and light. Light as the result of electric currents is no child. It was born in the same decade as gas and the steam engine, but while the latter have grown into immense giants, the former remains a mere stripling. Its growth has been very slow, and its stages of growth are marked by different epochs. Davy in 1808 discovered the arc; Faraday in 1831 showed how to produce currents from mechanical energy; Foucault in 1848 showed how to produce the electric lamp; Nollet in 1850 showed how to apply steam to Faraday's engine; Holmes in 1857 showed how to apply this engine to the production of light, and showed how lighthouses could be illumined by electricity; Siemens in 1854 made a further step in progress by diminishing the obstructions to the production of electricity; and Wilde, Varley, Wheatstone, and Siemens in 1866 showed how currents can so react on each other as to obtain a maximum effect. The various machines based on the principles discovered by Faraday, Siemens, and Wilde are all exhibited in this building, and are all dependent upon the rotation of coils of wire in a powerful magnetic field. When this field is produced by permanent steel magnets, we have what are called magneto-electric machines, illustrated by Faraday's original machine, by Saxton's, by Clarke's, by Holmes', and the latest form of this machine—De Meritens'. When this field is produced by the current itself, we have what are called dynamo-electric machines—illustrated by Siemen's, Gramme's, Wallace-Farmer's, and several others. Now the various lamps that are employed to utilize the energy of the currents formed by the above machines may either take the form of the arc which is practically illustrated by regulators based on Foucault's original form designed by Serin, Siemen's, Rapieff, Lontin, Wallace; and many others which are illustrated on the counters.

The form of light dependent upon incandescence either of carbon or of wire is illustrated by the lamps of Werdermann and the Anglo-American Light Company, and there is a third form of light called the "electric candle," which partakes of both the arc and incandescence, and which, from its wasting away like a wax taper, is called a candle, and is illustrated by that of Wilde, and that of Jablochhoff, which is so well known as employed in the illumination of the Thames Embankment. [All these lights were shown in action].

The electric arc is a little sun, and its light is, if anything, purer than that of the sun. The light from incandescence is not so pure or so intense. In fact, the current that will produce the arc giving a light equivalent to 1,250 candles will only, in raising a platinum wire to incandescence, produce about 500 candles.

There are reasons to believe that light by incandescence will prove an extremely valuable light in future, notwithstanding this deficiency, for whereas in the arc the intensity of the light only increases directly as the current, in the case of incandescence it increases as the square of the current, and, therefore, there must be some point where the light produced by incandescence must equal that produced by the arc.

The reason why this is not attained is that no substance is yet known that will withstand the heat of the arc. Therefore, the electric light is

almost a chemist's question, and the question to be solved is to find a material that will bear a temperature of about 4,000 degrees Fahrenheit without fusion.

There is no apparent limit to the intensity of light produced by the electric arc, but you can have too much of a good thing, even of the electric light. The law of reduction of intensity, by which light diminishes as the square of the distance, renders it a wasteful form of energy; for if you have to illuminate a spot at some distance you must necessarily waste an enormous amount of light near at home.

Thus, in the various systems of lighting we have to consider the best mode of applying the light. Whether it shall be centralized in one spot, or whether it shall be distributed over a given area. Now, inasmuch as the electric light only utilizes a little less than one half of the energy of the steam engine producing the currents, and as this share of the energy diminishes with great rapidity when resistance or lights are introduced, it follows that the only proper mode of economically using the light is to centralize it, *i. e.* to have one engine producing one light. To attempt to subdivide the light is a wasteful process. Light subdivided in series is diminished as the square of the number of lamps inserted, and when dealt with by a parallel arc it diminishes as the cube of the number of lamps.

The electric light possesses several defects. For instance, it throws very deep shadows, it is accompanied by great flickering and hissing, and in all the lamps hitherto practically employed its durability is very short. On the other hand, it possesses great advantages. It is most brilliant. It is as pure as, if not purer, than the sunlight. By withdrawing from the atmosphere of the places in which it is used the results of the combustion of gas and other artificial illuminants, it adds considerably to the hygienic properties of the space in which it is employed. It produces neither smoke nor noxious vapors. Again, by removing the hot air which ascends from all gas lamps, especially such as that produced by the footlights at the theatre or opera, it improves considerably the acoustic properties of the space where it is, and it is impossible to conceive a greater reformation in our theatres than to supplant the present objectionable row of footlights by electric lights of some kind or other. It also, when centralized, is economical, and the results of all experiments have been to show that in such instances it can be used at a rate lower than the present cost of gas.

Every practical application of science passes through three distinct stages. First, we have the theoretical stage, where it is the dream of the philosopher. Secondly, we come to the tentative stage, where it is handled by the practical man, and becomes the dream of the capitalist. And lastly, we have the practical stage, where the engineer attempts to realize the dream of the capitalist to benefit the public, and add to the comforts of the world at large.

The electric light is scarcely out of the tentative stage. It is true that Messrs Siemens have issued no less than 475 machines, and the Gramme authorities in Paris have issued over 1,000. Thus there must be some places where the light is permanently and practically in use, but it is still in the experimental stage, at least in England. It has been tried in workshops, in warehouses, in factories, in mills, in dye works, at railway stations, at docks. It is used in music halls, in circuses, and in illuminating, as we all know, the Thames Embankment. Its condition in this hall is simply tentative, and—one must say it with great regret—it has met here with objections from a source whence one would scarcely anticipate obstruction. The chief opponents to its use are the ladies; the light is too pure for them; their eye and taste have been educated to meet the prevailing effect of the glow of gaslight; then, when upon their costumes the purer light of electric arc is thrown, disappointment is the result. Nevertheless, let us hope that the eye which has been once satisfied with the ample curvilinear outline of crinoline, and is now proud of the less ample but perhaps more beautiful curvatures, can readi-

ly and rapidly pass from the imperfection of gas light to the purity of the electric arc.

One word as regards the future of this light. We have reached almost perfection in the machines designed for the production of currents, but during the last twenty years we have scarcely advanced one step toward an improvement in the electric lamp. The electric lamp of the future remains to be invented. Ideas as to its distribution are as futile as those regarding the philosopher's stone and perpetual motion; and with our present knowledge it is impossible to say that anything which has yet been produced is at all likely to supplant gas for domestic and ordinary purposes. Still, the electric light itself is well adapted for the illumination of large symmetrical places, and the result of the experiments of the past twelve months have been to show that it is only in this direction, in addition to the illumination of lighthouses, and for naval and shipping purposes, that the electric light can be said to have maintained its own. The present exhibition is purely illustrative. It is in no way competitive. The various exhibitors have gratuitously brought their instruments here for illustration only, and by their help we had before us the greatest display of electric light apparatus that have ever been brought together in this world.

American District Telegraph Company.

Until the American District took hold of the matter, the men who were hired to watch buildings containing valuable property were getting so inefficient that they were no protection at all against burglars, who could find them asleep at any time during the night, or, if not asleep, could overpower them without running many chances of giving an alarm. The company's system is a perfect protection. Let me again illustrate. One of the offices has been connected with Clafin's store, where there have been placed twenty-six instruments for sending night-watch signals. These instruments are in all parts of the building, from the top floor to the sub-cellar. It is the duty of the watchman to go from instrument to instrument and send in a signal every few minutes. Each signal is different from the others, and if it is not received within five minutes after it is due, the night manager of the District Telegraph office goes there with a messenger to see what the trouble is. If the watchman is asleep, he is waked up. If he has left the building, the company provides a special watch until the proprietor is notified and directs its discontinuance. If burglars have overpowered the watchman, the police are at once called. There is still another way in which the burglars have been headed off. To prevent a burglar from overpowering a watchman and personating him to the manager when he appears, the company has an "album" in which are kept the photographs of all the watchmen in the district. A watchman with a strange face would be promptly arrested. In short, it is absolutely impossible that the building can remain without a watchman for more than five minutes. A record of the exact time at which the signals are received is kept in the office, and sent to the proprietor the next day. The watchman has to pay ten cents every time that he fails to send a signal. One cannot help but admire the perfection of this. It can never fail except in the rare instances when the night manager fails in his duty. When he is negligent, he is heavily fined. The general superintendent has the supervision of the whole thing, and he is a man who never sleeps. There is the same night-watch system in both of Stewart's stores. Each building has two watchmen on the outside of it, each of whom patrols half way around the same every twenty minutes, and sends in signals. When this double patrol was first begun, they used to patrol for each other, and one would sleep in some convenient place or go home, but the company soon got the best of them. The locks on the signal boxes on two sides of the building were made different from those on the boxes on the other two. Then the key belonging to each watchman was fastened to a steel chain which was attached to a steel brace-

let, and the latter was locked on the watchman's arm by the District Telegraph manager, who kept the key. This is the present method, and it has been without a fault. Indeed, the watchmen are so prompt in sending in their signals on time, that those due at the same minute, are frequently received on the instrument in the office at the same instant. Signals from Stewart's stores are received every five minutes all night long.

The burglar alarms constitute another important part of the company's business. The bank, safe, or house of a person desiring to have it protected by a burglar alarm, is placed in an electrical circuit connected with one of the company's offices. After the alarm is "set," if a window or skylight is raised, a door of the building or safe opened, certain chairs or desks moved, or particular portions of the floor stepped on, a bell rings in the office, and an officer is on hand in three minutes. If the owner has entrusted the keys of the building with him, he enters and searches. The owner, if he has the keys, is notified at once, while the officer watches the building until the owner orders it to be stopped or continued. The worst thing about the burglar alarms is, that they frequently spring when no burglar is around. The contrivance is of such a delicate nature that they are sprung by cats, rats, the weather, crossing wires, and many other causes. But, notwithstanding all this, a burglar entering a protected building is sure to be detected, and the best of it is, he doesn't know when he has sprung an alarm. Professional cracksmen have obtained employment in the company to ascertain, if possible, how to evade the faithful vigil that electricity keeps, but none of them have succeeded, for the best electricians in the world don't know how to do it. The patrol service is of great benefit to subscribers. The company has twenty-nine patrolmen whose duty it is to see that the buildings of subscribers are not on fire, that some careless clerk has not left a key in the lock of a door, that no windows, doors, or gratings are left open, and, in short, to see that there are no irregularities about the place. Electricity is called upon to prevent the patrolmen from sleeping. Signal boxes are located at various places on their posts, and if they do not send in their signals promptly to time to the nearest district office, the night manager immediately ascertains the trouble. The receipt of the signals is surety of the patrolmen's watchfulness.

The business that the company does is almost infinite. It collects and delivers telegrams for the Western Union Telegraph Company. A subscriber wanting to send a telegram can call a boy free of charge and send the telegram to the nearest Western Union or Atlantic & Pacific office. These companies pay the American District for the collection.

Express orders are also taken free of charge. A subscriber wanting to send a package by express calls a messenger, gives him the necessary information, and the boy returns to the office. The order is then immediately sent to a reliable express company by telegraph or telephone, and the subscriber pays only the usual express charges. Carriages can be ordered in the same way free of charge. A lady wishing to ride down to Stewart's or Clafin's, turns the crank of the call instrument, a boy appears in three minutes, she gives him her order, he returns to the office in three minutes, and the office being connected with a respectable livery stable by telephone, the order is telephoned and the carriage is at the lady's door in fifteen or twenty minutes.

The company also sells tickets for all the best theatres in the city. It has the agency for the sale of two or more rows of seats in each theatre. Suppose a down-town business man wants to go to the Union Square theatre this evening. He hasn't time to go up to the theatre and buy the tickets himself, so he drops into an American District office near by and asks for two seats in that theatre. Before he has had time to get out his pocketbook, his want has been telegraphed to the central office, a reply sent, and the seats are shown to him on a plan of the theatre. For this great saving of his time he pays an advance of only fifteen cents for each seat. A subscriber can call

a boy and obtain a seat in the same way. The number of seats not sold are telegraphed to each theatre at 7.30 in the evening.

All this business is done with the greatest rapidity, but equally admirable is the delivery of circulars. This part of the business has greatly increased lately. The company has such a perfect system that a circular can be placed in every house in the city, yes even in the hands of every person in the city, in one day. The charges are quite moderate. The price for unaddressed circulars is one to two cents each, and even cheaper according to quantity. Addressed matter costs only a little more. Just before election hundreds of thousands of political documents are delivered. Circulars, papers, etc., of every description are delivered, and an immense advertising is done in this way.

Henry W. Pope, a native of Great Barrington, and a resident of your pleasant village during his boyhood, is the general superintendent. He has the charge of the business management of the company, and its wonderful perfection of detail is almost entirely due to him. T. D. Lockwood, who was a telegraph operator at Lee and Falls Village, and a correspondent of *The Courier* a few years ago, is one of the inspectors and the electrician of the company. Charles H. Porter, a native of Pittsfield, and formerly of Great Barrington, and G. K. Holmes are day managers, and George A. Huntley a night manager. Mr. Pope has succeeded in making one of the best illustrations of evolution that has ever appeared in so short a growth. The business of the company has immensely increased in quantity, in its branches, and in its details; and yet its methods have been growing all the time more definite, and its branches becoming more and more distinct, while the different parts were perfecting and coalescing.—*N. Y. Cor. Berkshire (Mass.) Courier.*

A Criticism of Mr. Reid's Book.

I have received Mr. J. D. Reid's new book, "The Telegraph in America," and, while I appreciate his generosity in making a reduction in the price to the craft, I cannot help saying that I do not appreciate the book itself half so well as I should if it were less biased in favor of the Western Union Telegraph Company. Not that I object to that corporation having a chronicler, if it wants to pay for one; neither do I object to Mr. Reid giving the company its full share of commendation, as his bread and butter, I believe, come from that source. But what I do deprecate is the expenditure of so much enthusiasm and the devotion of so much space to a single corporation in a work with so comprehensive a title. If the title, instead of "The Telegraph in America," were "The Western Union Telegraph in America," it would far better indicate the character of the book. In fact, the author seems to have taken for his ruling theme the maxim of the old English law, that "The King (otherwise the Western Union Telegraph Company) can do no wrong," which maxim, by the way, is as fallacious as most oft-quoted maxims and proverbs generally are. I have looked over the biographical sketches of several gentlemen connected with the Western Union Company, contained in Mr. Reid's book, and have failed to discover one who was not, in his eyes, the consummation of all the manly virtues. Whether the official atmosphere of the company is favorable to the production of such paragons, or whether Mr. Reid is a Methodist and a believer in the doctrine of "perfection," I am unable to say; but the tenor of the biographical portion of the work is such as to lead us to believe that one or the other hypothesis is correct. Of course, as every one knows, it is much more agreeable to say pleasant things of a person than to even hint at his shortcomings, and, very probably, this influenced the author somewhat in the conduct of his work; but I must reiterate what I said in the first place, that I consider such a course injurious to the general character and influence of the book. At the same time I do not wish to be understood as detracting from whatever merits the gentlemen spoken of possess; on

the contrary, I am of the opinion that Mr. Reid's course of too lavish and indiscriminate praise would have more effect in that direction than anything that I could say, even if I were so disposed, which I am not.

Aside from the faults above stated, I am glad to say that I consider that Mr. Reid has combined information and entertainment more happily in his book than any of our previous telegraphic authors, and I can cheerfully recommend its perusal to the fraternity at large. X. Y. Z.

Opposition to the New Cable Company.

W. Cornell Jewett, "of the United States of America, concessionaire, etc.," has addressed to "the syndicate and intending subscribers to 'The Compagnie Francaise de Telegraphie de Paris a New York'" a communication in which he begs to submit to their best consideration the following points concerning the above enterprise. He says:

In December, 1874, the Count Dillon, who then, as he does now, represented M. Pouyer-Quertier, entered into contracts with me, through which the present scheme was originated, and under which I now claim.—That any organization brought out independently of me, as is the case with the present, is imperative without my consent. And, further, that in consideration of the withdrawal of my application for a concession from the French Government, then before the Duc Decazes, I was to receive one-half the remuneration received, less the payments I was to make to the Count Dillon and others, and the concession was to be received in the joint names of M. Pouyer-Quertier and myself.

The Act of Congress of 1867, under which you propose to lay your cables, is understood by the United States Government to apply only to cables laid *via the Azores*, and, this being so, it is evident that the right, which you allege you possess, to lay cables by the route you name from England and France is wholly worthless.

There must be some mistake in regard to the statement circulated that you will lay your cables in connection with a complete land-wire system in the United States; as it is well known that the Anglo-American Company and Direct United States Company have the control of and an intimate working connection with the land systems of the Western Union and Atlantic and Pacific Companies, while I control under special arrangements the land wires of an independent system, of which important railroad wires and independent wires now progressing are the nucleus, and in connection with which I own the Act of Congress of 1877, under which cables can now only be laid in the United States without any question.

The prospectus does not clearly state the nature of the concession you hold from the French Government, but, supposing it to be in your favor, you cannot lay a cable under it to the United States, as under the administration of President Grant and Secretary Fish it was distinctly understood, that no cables from France would be allowed to be landed on the shores of the United States under a second concession to a foreigner, but that the concession must be in the name of an American citizen or corporation in order to meet the demand for reciprocity established by the said administration, and in the absence of special action in Congress as to French cables this policy will be maintained by President Hayes and Secretary Evarts, after asserting that the capital asked for by the new company appears to him to be largely in excess of the real requirements of the enterprise, and that to go on with the scheme would involve a considerable loss to the shareholders. Mr. Jewett assures them that it is his purpose to establish all his rights as above indicated, under the laws of France, England, and the United States.

Pittsburgh Notes.

Quite a sensation was occasioned last week in newspaper and telegraphic circles, by the publication of an article in the daily *Dispatch*, referring to a "young gentleman, not unknown as a newspaper man," and which has since resulted in a suit against that paper for libel, by Marion Ogden, formerly an operator at this office, but for the past two years connected with various newspapers in this city as a reporter. Ogden deems himself the person referred to in the *Dispatch*, and has laid the damages at \$20,000.

The *Dispatch*, not mentioning any name, but

describing the party referred to as having "hair lighter than a golden hue," and a "complexion of the tender shades of the ripened peach," went on to say that the person in question, having for a time abandoned journalism, obtained a position in the chorus of Ellsler's Pinafore Company, but that, owing to incompetency, he was discharged; it being stated that, by a preconceived arrangement, the orchestra and the other members of the chorus suddenly stopped on one occasion, when it was found that, like the fiddler with the greased bow, he was not singing at all, but merely going through the motions. The article, still mentioning no name, proceeds to say that, during his membership in the Pinafore Company, the gentleman referred to conceived a tender passion for one of the feminine members of the chorus, and that the lady reciprocated his attachment, and was, indeed, in constant correspondence with him; but having discovered that he was exhibiting her letters around town, she broke off the engagement which was alleged to have existed, and refused to hold any further intercourse with him. This, the *Dispatch* article continues, taken in connection with the fact of the gentleman in question entertaining hostile feelings toward the manager of the troupe, Harry Ellsler, caused him to indite divers communications to one of our city papers, in which, among other things, it was stated that the male members of the troupe were much chagrined at not being able to obtain any spirituous stimulants at one of the towns visited by the company. This the gentlemen aforesaid indignantly denied. The *Dispatch* further stated that the journalistic Orpheus had, in private conversations, dropped intimations characterizing the tour of the Pinafore Company as a prolonged and extensive drunk as far as the male members were concerned, and conveying insinuations even more derogatory to the ladies of the company, while Manager Ellsler was mentioned in a manner calculated to excite suspicions that he was, to speak politely, a kleptomaniac.

The article is too long to review in full, but the closing paragraph contained a reference to a practical joke, which, it alleges, was perpetrated on the ex-operator. It says, that, having made an arrangement with the young lady mentioned above to be in the telegraph office in Akron, Ohio (where the Pinafore Company was playing at the time), he hid himself to the Western Union office in this city, at the hour agreed upon, and, securing the use of an Akron wire, proceeded, as he fondly imagined, to hold sweet converse with the object of his affections, through the medium of the operator at Akron. The *Dispatch* states, however, that some unfeeling wag at "G" had switched on another instrument in the same room, and, impersonating the young lady, was the recipient of many tender communications. That is the *Dispatch's* story; as much may be believed as one likes.

The preliminary hearing in the case was had this evening (the 12th), and after the production of a large number of witnesses Alderman Milliken reserved his decision until next Thursday.

CALATINUS.

A most interesting trial of the electric light is now being made by the Northeastern Railway Company at their New Station at York, the result of which appears to be eminently satisfactory. Two electric lights are placed above the principal platform at a height of 34 feet. Each lamp is enclosed in a lantern of clear (not opalized) glass, 16 inches in diameter, surmounted by a reflector having a white surface and 5 feet in diameter. The lamps, which are automatic in action, work with remarkable regularity, and without the slightest fluctuation. The motor employed is a horizontal engine of 21 horse-power. The conducting wires which connect with the machines with the lamps form one with the wire ropes by which the automatic movement of the lamps is effected. By this means the constant renewal of the carbons of the lamps is greatly facilitated, while the unsightly appearance of the wires suspended in the air is avoided. The luminous intensity of each light is equal to about 1,400 candles. The station is brilliantly lighted, and the arrangements have succeeded to the entire satisfaction of the Northeastern Company, and of the Superintendent of the lighting.

THE OPERATOR A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY.

W. J. JOHNSTON, - - - Publisher.

June 1st, 1879.

WESTERN UNION stock is quoted at 114½, A. & P. at 39, and American District Telegraph at 69½

The illustrations in the article "Prosperity and Adversity" on Page 3, were drawn by Mr. Joseph E. Muchmore, of 791 Broadway office, this city, and are very creditable productions indeed for an amateur.

To Cleveland belongs the honor of being the first American city to be lighted by electricity. Twelve Brush electric lights take the place of one hundred and ten gas burners, and give much satisfaction. The cost of the electric lights is \$100 a year less than the city formerly paid for gas.

THE General Post Office in this city is now lighted by electricity. Five Maxim's electric lamps, similar to those in the Equitable Building, have been put up by the U. S. Electric Light Co. and work satisfactorily. They are hung very high, so that the glare does not affect the eyes. Each lamp gives about 5,000 candle power, and is connected with a dynamic machine of about four horse power. The light is that of the voltaic arc, and French carbons are used. Each carbon or candle will last about five hours, and when burnt out another lamp is swung into position in place of it. The cost of each lamp is estimated at about three cents per hour.

THE telegraphic novel, "Wired Love," advertised on page 10 of this issue, is a handsomely printed and bound volume of 256 pages. It is from the pen of Miss Ella Cheever Thayer, a young lady telegrapher of Boston, and its contents are bright, piquant, spicy, and original. The book is dedicated, in telegraphic dots and dashes, to "the memory of a dear friend, but for whom this little work had never been." Every telegrapher will be anxious to possess a copy of "Wired Love," the first telegraphic novel published, and the first telegraphic book of any kind written by a lady. We shall refer to this book more at length next issue. In the meantime copies will be promptly mailed, postage prepaid, on receipt of price, 75 cents.

ALTHOUGH the "Rapid" telegraph Company has not recently indulged much in the bright sunlight of publicity, it has been quietly making arrangements for getting its lines built. Poles have been bought, and the erection of them will commence at once. The first line will be from New York to Boston, and afterward to Washington and Chicago, and will consist of three wires, two for "machine" telegraphing, and one for the ordinary Morse. It is thought that the company will be ready for business by the early fall. The lines it proposes to build will be unusually substantial.

Partrick & Carter, of Philadelphia.

On a recent visit to Philadelphia we called upon Messrs. Partrick & Carter, the well-known manufacturers of telegraph and electrical instruments and supplies. In a previous issue of THE OPERATOR we called the attention of our readers to the fact that this enterprising firm had lately removed to new and more commodious quarters at No. 114 South Second Street. Their largely increased and steadily growing business necessitated this change. In the six-story building now occupied by the firm they possess the advantage of having the office, salesroom, and factory all under one roof, which, with their greatly-increased facilities, now enables them to meet any and all demands for superior work in a prompt and satisfactory manner.

During a period covering twelve years Messrs. Partrick & Carter have by fair dealing, perseverance, and indomitable energy, established a reputation second to none in the country, and as they employ none but experienced and skilled mechanics, and use only the very best materials in their manufactures, their telegraphic and electrical instruments, and all supplies appertaining to their business, can always be relied upon as being A No. 1 in quality, and as low as the lowest in price.

In this extensive establishment are always found a full and complete stock of instruments, batteries of every description, office and magnet wire, line wire, insulators, brackets, line building tools, etc.—in fact every article required for the construction, equipment, and maintenance of telegraph lines. That our readers may form some idea of the prominence which this firm has attained, we might incidentally mention that they obtained last month, over all competitors, the contract for furnishing the Signal Service and Military Telegraph of the United States Government with all instruments and supplies required by those departments for the ensuing year, as the Government will accept none but the best goods at the lowest figures. This contract is in itself a strong guarantee of the superiority of Messrs. Partrick & Carter's workmanship.

They number among their customers the Western Union and Atlantic & Pacific Companies, and most of the telegraph and railroad companies throughout the United States and Canadas; also telephone exchanges, contractors, and individuals in all sections of the country. The extensive operations of the firm are not alone confined to the United States, they do a large business in South and Central America and other foreign countries, where their manufactures are widely known and in demand, and where first-class instruments are required.

Messrs. Partrick & Carter, on the first of January last, in connection with their telegraph business, added a railway supply department, which is now under the management of a gentleman who has had many years' experience, and is thoroughly conversant with all the details of this branch of business. This department is now in complete working order, and they are fully prepared to meet all demands that may be made upon them in this line.

The firm makes a specialty of short-line instruments, and build and equip private lines with either telephones, Morse, printing, or dial instruments. They manufacture and deal largely in hotel annunciators of the more approved form,

electric bells, burglar and fire alarms, magneto call bells, telephone switches, medical apparatus, induction coils, electro-magnets, blasting apparatus, and every description of telegraphic and electrical instrument known. We cannot here enumerate in detail the large and varied stock in the establishment of this firm—suffice it to say that so full and complete is the assortment of instruments and other material that no delay or inconvenience is experienced in filling the largest orders.

Partrick & Carter are the originators and owners of the famous Giant Sounder, thousands of which are in use and giving the greatest satisfaction. They are also proprietors of Carter's Patent Needle Annunciator, which is acknowledged to be the most simple, durable, and efficient in use, and its superiority is attested by the fact that it has been placed in the leading hotels in all sections of the country. The firm also manufacture and deal in many specialties which will be found enumerated in their illustrated catalogue and price list. Mr. James Partrick, of this firm, is an "old-timer," and well known in telegraphic circles. Since 1847 he has been connected with the business, and served as operator, manager, and superintendent, and for a long time was engaged in building lines. He is, therefore, possessed of a practical knowledge of the wants of telegraphers.

Telegraph Wires in Cities.

The recent purchase by the Western Electric Manufacturing Company—which is mainly owned by the Western Union—of the right to use Mr. David Brook's system of underground telegraphy, would seem to imply that the wires of the Western Union Telegraph Company in cities are to be placed underground. This has been done in most of the large cities of Europe, with, we believe, generally satisfactory results. Of course, the first cost, especially where there are but a small number of wires, is more than would be required to build an aerial line; but this is counterbalanced by the great reduction in maintenance expenses, while "troubles" in wires laid in this manner do not often occur.

It will surprise many of our readers to hear that in this city of New York alone, which is only thirteen miles in length, by two and a half in breadth at its widest part, there are over 5,000 miles of telegraph wire strung on poles. The weight of this is 750 tons, or over a million and a half of pounds. Is it not about time, then, that steps were being taken to abate what has now in many streets and avenues become a nuisance?

A newspaper reporter has recently gathered some interesting statistics of the vast network of wires in this city. The figures below include only the lines of wire now in actual use; but there are many wires suspended over and from house-tops that are not now in use, on account of changes of route and location. They have been allowed to remain because, for one reason, it would not pay to remove them, and, for another, the probability that they may be required at a subsequent period and then come again into use. This is especially the case with private wires leading from houses to offices, or between a down town office, and an up-town headquarters or factory. Some wires extend from New York offices across the rivers by means of cables, etc., to factories on Long Island and in New Jersey; but as these are

mostly of a private character, of which no record can be obtained, their extent in the city can only be estimated. If these and the wires not in use are taken into account, the weight of metal thus suspended overhead will aggregate at least 1,000 tons or 2,000,000 pounds, and the increase of distance traveled over by these wires may make the aggregate 7,500 miles.

To charge these wires with the proper amount of electricity necessary to make them the medium for the rapid conveyance of messages from one part of the city to another, over thirty thousand battery cells are required. These batteries are formed of various sized cells, in the different companies' offices, and the amount of blue vitriol, or sulphate of copper used annually amounts to hundreds of thousands of pounds.

The following table will give some detailed idea of the extent of telegraphic wire over the city; although in a few instances the names of companies, or the length of wire employed has not been obtained:

	Miles of wire.	Lbs. weight per mile.	Battery Jars.
Western Union.....	1,142	350	9,500
N. Y. Private Line and Telephone Dep't.....	1,200	250	6,500
Fire Telegraph.....	750	300	1,200
Private Lines.....	400	200	1,500
Bell Telephone.....	400	163	1,500
Gold and Stock.....	155	300	8,000
Atlantic and Pacific.....	290	335	1,150
American District.....	300	163	2,500
Law Telegraph.....	225	200	250
Holmes' Burglar.....	165	150	1,500
Automatic Signal.....	—	—	—
Police.....	100	300	185
Com. of Charities and Correction.....	20	300	30
Armories.....	22	300	70
Hospital service.....	7	300	21

It will be seen by the above that the armories of the militia and the hospitals are connected by telegraph with the Police Headquarters, and even the institutions under the Commissioners of Charities and Correction; consequently the telegraph system of New York City is nearly as perfect as it can be, although the future may even develop greater facilities.

THE famous "shoot him on the spot" order of General Dix was contained in a telegraph dispatch sent by that officer, January 29, 1861. Dix had then been only a short time in Howell Cobb's place as Secretary of the Treasury. The revenue cutter Robert McClelland was at New Orleans, under command of Captain Breshwood. General Dix suspected Breshwood's loyalty, and sent a messenger to New Orleans, with instructions to Captain Breshwood to bring the cutter at once to New York. The Captain bluntly refused. This was telegraphed to Dix, who was then staying at the White House, as the guest of Mr. Buchanan. On receiving the dispatch, Dix immediately went to his office in the Treasury, and wrote the celebrated order. Its substance was a command to Lieutenant Caldwell of the cutter, through the messenger, to supersede Captain Breshwood, and to treat the latter as a mutineer if he interfered. The dispatch closed with the words: "If any one attempts to haul down the American flag, shoot him on the spot." The message, however, was intercepted, and never delivered; the flag was hauled down, and nobody was shot. The original dispatch is in the possession of General Dix's son, Rev. Morgan Dix, of New York.

WE are informed that when General Eckert resigned the presidency of the Atlantic and Pacific Telegraph Company recently, his intention was to become President of Mr. Gould's new Central Union Line. He had signed a contract with the A. & P. for five years, however, at a salary of \$15,000 a year, in addition to 2,500 shares of A. & P. stock. There being still a year of the time to run, the Western Union would not permit him to resign, so it was announced that at the request of the trustees his resignation had been withdrawn. Mr. D. H. Bates was then made President of the Central Union, but, our informant says, General Eckert is the power behind the throne, nothing being done by any one connected with the company until the General has been consulted. While the Central Union will unquestionably be used for the purpose of influencing the price of Western Union stock, and eventually be sold out to the latter company, its advent may help telegraphers by creating a better demand for operators. It is understood that the company intends paying its employees liberal salaries.

It turns out that the Western Electric Manufacturing Company, and not the Western Union Telegraph Company, was the purchaser of Mr. David Brooks' system of underground telegraphy. The Western Electric, however, is largely owned by the Western Union. The core of cables laid according to the Brooks' principles may be composed of any number of copper wires. Each wire is covered with cotton, and the wires are bound together with another covering. The core thus prepared is then boiled in oil. Afterward it is washed thoroughly, and boiled in water. It is then bound with hemp to protect the cotton covering, and again boiled in oil. The core is drawn into iron pipes, specially made and tested, which are filled with boiling oil. By this means air and moisture are excluded from contact with the wires, while the oil serves also as an insulating medium between the wires. The supply of oil in the pipes is maintained by a standing pipe or elevated vessel filled with oil. Tests of cables thus prepared, which have been laid more than a year, have shown a large increase in the insulating resistance.

THE London correspondent of the *Manchester Guardian* says that the new French Atlantic cable is in a greater state of forwardness than is generally known. Surveys and soundings have been made for landing stations at Scilly, and on the coast of Brittany. The steamer Faraday is almost if not quite ready for her cargo, and will begin at once taking in cable. It is expected that the shore ends will be laid before the end of June.

The electric telegraph is being rapidly extended over the dark continent of Africa. The active energies of M. Lesseps are being directed toward the establishment of a line across the Great Desert, from Algeria to the French settlement of Senegal, and the French have already extended their Algerian lines eastward to Tripoli. The Egyptian lines reach to the Equator, and those of South Africa will probably before long be in communication with them; and by-and-by we may expect to see an overland line from Cape Town to Cairo and Alexandria. The extension of commercial relations with the interior in the same direction will aid in protecting the wires; and it is stated as regards the northern lines that the Arabs, finding their camels travel much faster when following them, most scrupulously respect the wires and poles.

Themes for the Thoughtful.

When we have a grievance we must treat it as a weed and pull it up.

Work is the weapon of honor, and who locks up the weapon will never triumph.

Trouble does not come by chance—it is sent to make us rise and not to make us sink.

Reading merely for pastime, without any moral aim, is a thing to be guarded against.

Immortality opens a large hope, that may overpay the most unspeakable bitterness of life.

Be true to your friend; never speak of his faults to another, to show your own discrimination.

None are so tiresome as those who always agree with us; we might as well talk with echoes.

The noblest books and divinest prayers depend for their lasting powers upon the sympathy they show.

A man who has a heart in him values a genuine little bit of home more than anything else you can give him.

Advice always infers, however gently it may be given, a certain superiority in the giver over the receiver.

Keep your own secrets; for if you discover them to another, and he reveals them, you should pardon him for it, since he is only treacherous by your example.

"Constancy has kind and rank.
One man's is lordly, plump and bravely clad,
Holds its head high and tells the world its name;
Another man's is beggard, must go bare,
And shiver through the world, the jest of all,
But that it puts the motely on, and plays
Itself the jester."

When Francis De Sales was asked: What virtues do you mean? he replied: "Humility, patience, benignity, condescension, cheerfulness, compassion, simplicity—all, in short, of that sort of little virtues. They make little show, but shed a sweet odor on all round."

"Though sometimes small evils," says Richard Sharp, "like invisible insects, inflict great pain, and a single hair may stop a vast machine, yet the chief secret of comfort lies in not suffering trifles to vex us; and in cultivating an undergrowth of small pleasures, since very few great ones, alas! are let on long leases."

There is in every human heart,
Some not completely barren part,
Where seeds of love and truth might grow,
And flowers of generous virtue blow;
To plant, to watch, to water there—
This be our duty—this our care!

Men love better books which please them than those which instruct. Since their ennuï troubles them more than their ignorance, they prefer being amused to being informed.

When we have practiced good actions awhile, they become easy, and when they become easy we begin to take a pleasure in them, and when they please us we do them frequently. Form, then, the habit of doing good.

Better trust all and be deceived,
And weep that trust and that deceiving,
Than doubt one heart that, if believed,
Had blessed one's life with true believing.

Oh! in this mocking world too fast
The doubting fiend o'ertakes our youth;
Better be cheated to the last
Than lose the blessed hope of truth.

Is it necessary or advisable to address an audience continually as fellow-sinners? Is it not enough to be fellow-creatures, born yesterday, suffering and stirring to-day, dying to-morrow? By our common humanity, by our common capacities for pain and pleasure, by our common laughter and our common tears, by our common aspiration to reach something better than ourselves, by our common tendency to invest whatever we love and whatever we lose with some qualities superior to our own failings as we knew them in our poor hearts, surely it is enough to be fellow-creatures! It includes some touching meanings.

The New York Wire Club.

Charley Jennings rapped for order, and, after roll-call, President Borst announced that Prof. Weller had consented to set the ball in motion, by rendering upon his magnificent parlor-organ some of the most intricate and entrancing themes selected from the old masters. Owing to the habitual shyness and natural modesty of this now famous artist, it was not without difficulty that the Committee of Arrangements, Messrs. Olmstead, Moffatt, Kavanagh, and Crate, succeeded in displacing the gentleman from his tightly-grasped chair and seating him before the instrument. This feat accomplished, however, Prof. Weller's fingers ran lightly over the keys, and soon the grandest symphonies rolled faultlessly through the auditorium, concluding with a brilliant *pot-pourri* of national airs. Mr. Weller was the recipient of the most unbounded applause, and the wildest excitement ensued, during which the distinguished and perspiring Professor descended from the stage, handicapped with a floral offspring of heroic size, yet containing also many useful and some unique portions of the vegetable kingdom.

A hush of expectancy pervaded the house as John Brant arose, and requested that the members would lay aside irrelevant business and refrain from all desultory conversation, that they might more completely realize the magnitude and importance of the announcement that he had been commissioned to proclaim.

In a loud voice he recounted the triumphs of the 13th Regiment in Montreal, "but," said he, "there is one member of that organization who was left behind, and Private Denny Brown will now perform his far-famed 'Lightning Silent Drill.'"

The scene that followed beggars description. The audience rose *en masse*, and cheered until the rafters rocked in unison with their deafening plaudits, and Doorkeeper Finnegan advancing to a reserved space in the centre of the hall, performed an Irish breakdown, with a vigor and enthusiasm that electrified the club.

President Borst, in a voice surcharged with pathos, alluded to the return of the South American explorers, Messrs. O'Brien, Campbell, and Largay, and, on his motion, unanimous consent was given to place the rooms of the Wire Club at the disposal of the tempest-tossed mariners for a series of lectures upon the result of their trip.

Gisborn Ward proposed the health of the distinguished guests, and called on the members to test the flavor of

"The bubbles that swim
On the beaker's brim,
And break on the lips while meeting."

Mr. O'Brien, on behalf of the explorers, returned thanks. They had, he said, a very tempestuous time; but when they reached New York,

The wind sank away like a sleeping child's breath,
The pavilion of clouds was upturned,
And the sun, like a spirit triumphant o'er death,
Smiled out on this beautiful world.

The meeting then adjourned.

Hanged, but Not Killed.

The *Evening Post* of this city gives an account of an interview between a Dr. Lampert and a number of reporters. The doctor stepped into the *Post* reporters' room and was drawn into a conversation on resuscitating the apparently dead. We quote from the *Post*:

"Did you ever see a hanged man come to life, doctor?" asked a doubting Thomas.

"Yes, I have."

All ears bent perceptibly toward the speaker, and there was silence as in death.

"A young fellow," began the doctor, "was condemned to be executed. During his incarceration he promised his body to the prison physician in return for the tobacco that he used. [Cries of "Oh!" "Dreadful!" "The monster!"] from a *Tribune* reporter who had come in to borrow some news.] When he was dead the physicians determined to try an electrical machine on him,

but never having handled one, called me in to help. I went. We applied electricity to various parts of the body, and wherever it was applied the body moved. At length we sent a current along the spine from end to end. The fellow was lying on a long table—as long as—well (looking around the room) rather longer than any you've got here. He sat up; opened his eyes slowly; shut them; then opened them wide. The physician, who owned the body, and two young men who were helping him, started affrighted for the door.

"Did the man come round all right?" inquired the Thomas reporter earnestly.

"He didn't lie down again. In half an hour he spoke—asked where he was and what we were doing with him. In a couple of hours he was on his way out of the village as fast as his legs could carry him."

"Did they catch him again?"

"No. The inhabitants to this day think that he was dissected."

"Ought he to have been hanged if he had been caught?"

"Well, there's a difference of opinion about that. Certainly the physician owned him—had bought and paid for him."

"Would it have been wrong, doctor, for the physician to kill him, when he saw him coming to life, and robbing him of his property?"

The reporter who asked the question is one of the most bloodthirsty persons in this city. The doctor wisely replied by saying that the answer belonged to the department of morals, in which he was not a professor.

The Telephone vs. Telegraphy.

A writer in the *Electrician* says: "For several years past I have been engaged in forwarding, by telegraph, reports of all vessels showing their distinguishing flags off my station here; the total yearly number of these telegraphic reports is about three thousand. Finding the distance of this place from the nearest telegraph office (a full mile) a very serious inconvenience, I negotiated with Mr. J. Blount Thomas, Professor Bell's agent, for a telephone line, and on the 14th November last I first communicated by direct word between my house and the telegraph office. My venture has certainly succeeded beyond my expectations. Not the slightest hitch has occurred from the first, and though I have a maintenance and repairing clause in my agreement with the contractor, I am glad to say that he did his work so well in the first instance that, in spite of a most trying winter, I have not as yet had any occasion to avail myself of it. I have been fortunate in securing the services of a very intelligent and competent assistant, who takes down telegrams from my dictation [with perfect accuracy and without the least difficulty. I may mention that these messages often contain from two to three hundred words, and among them are the names of many foreign ships, and other words of difficult pronunciation. The fact that these are almost always transmitted quite accurately speaks volumes for the articulating powers of Bell's telephone. . . . In the telephone, no special instruction whatever is required. The simple 'necessaria' to successful working are, fairly distinct pronunciation in the speaker, and ordinary powers of hearing in the listener. Loud speaking is detrimental rather than otherwise, and a distinctly pronounced whisper, however low, is perfectly audible. I cannot but believe that as the telephone becomes better known it will be better appreciated, and that it will largely supersede the telegraph for many purposes."

Edison's loud speaking telephone was exhibited in London, at the rooms of the Royal Society, to the President of the society and a number of distinguished gentlemen, including the Speaker of the House of Commons, the First Lord of the Admiralty, Mr. W. E. Forster, Sir John Lubbock, Dr. Lyon Playfair and others. A passage from a speech by Mr. Gladstone, read by a gentleman in Albemarle street, was clearly heard at the Royal Society rooms.

Scientific American Answers to Correspondents.

G. G. asks: Can the telephone be worked by using a small creek in place of the second or return wire? A. Yes.

B. B. S. asks: Which will require the least battery, a double telegraph line two hundred yards in length, or a single line with ground wire same length? A. The double line.

A. E. W. asks: 1. Has the phonograph been perfected so that a speech, sermon, or a musical piece may be registered by having the speaker a few feet from the instrument, say 15 or 20 feet? A. We think not. 2. Has there ever been a telephone invented in which a diaphragm and artificial magnet are placed in the circuit of a common electrical battery? A. Yes.

M. P. asks: How can I conveniently straighten brass or iron wire without a wire straightener? A. It cannot be done without a straightener of some kind. Probably the simplest straightener is three steel pins driven into a plank. If the pins are properly arranged, and the wire is drawn over the first, under the second, and over the third, it may be straightened well enough for some purposes.

J. V. A. asks: What are the proper dimensions for making a compound bar magnet capable of sustaining a weight of 20 lbs.? A. Jamn by arranging together several thin plates magnetized to saturation succeeded in making bar magnets which support fifteen times their own weight. The dimensions of a magnet to support a given weight will vary greatly with the quality of the steel from which it is made, and the treatment it receives.

J. J. L. asks: 1. How long will magnetized steel, with constant use, retain its magnetism? A. It depends upon how it is used. If submitted to jars or shocks, or if the armature is applied and removed many times in succession, the magnet will be injured. 2. Does it lose its magnetism from non-use? A. If provided with an armature it may improve. 3. Does the quality make any difference? A. Yes. 4. I have flat bar steel $\frac{1}{2} \times \frac{1}{4}$. Can I have that size magnetized to lift from 4 to 8 lbs.? A. It may sustain the weight mentioned, but it probably will not lift it.

X. Y. Z. writes: 1. I have an electric engine; the magnets are wound with No. 17 cotton covered wire (Stubbs' gauge). I want to use Daniell's battery with porous cups $\frac{1}{4}$ inches high, and $1\frac{1}{2}$ diameter. What quantity and intensity shall I use to get the most power? A. It depends altogether on the construction of the engine. You can easily determine by experiment which method of connecting up the batteries is best. 2. How many of the above cells will it take to make an electric light to light a room 12 feet square? A. 50. 3. How can I loosen the binding screws, that are corroded, in carbon plates? A. It is possible that soaking them in hot water may be of some benefit.

F. S. asks (1) how to construct an electro-magnet of about 4 lb. sustaining power, and how many cells of gravity batteries it will take to run it? A. Take a $\frac{1}{2}$ inch bar of soft iron, 8 inches long bend it into U form, with the arms about 2 inches apart. Wind on each limb of the U 8 or 10 layers of No. 18 wire. These coils must be wound in opposite directions. Use three or four cells of gravity battery. 2. How many of the same cells will it take to run an electric engine powerful enough to run a large sewing machine? A. 40 or 50.

J. A. L. asks: 1. What is the resistance per mile in copper wire, No. 17, and No. 25 American gauge? A. Approximately 20 and 168 ohms respectively. 2. What temper is best for strong and constant magnets? A. A straw color. 3. What is the best method of magnetization, by currents or by friction, on a permanent or electro-magnet? A. By contact with a strong electro-magnet, or by inclosing them in a helix traversed by a strong electric current. See *Scientific American* Supplement, No. 142. 4. What should be the lifting power of a horseshoe magnet, weight half a pound? I made one which will lift nine times its weight: is that a good one? A. Your magnet does very well. 5. Can I obtain from you back numbers of the *Scientific American*, or the Supplement, giving directions for making telephones, microphones, or phonographs? A. Telephones, No. 142. Microphones No. 163. Phonographs, No. 133. 6. What kind of carbon will do for Edison's telephone, and how can it be made? A. The carbon used in Edison's telephones is deposited from burning kerosene oil. Mr. Edison's method is to set a lamp smoking, collect the carbon, and form it into buttons under strong pressure.

Taxing Corporations.

A bill now pending in the New York State Assembly provides for the taxation of corporations like telegraph and railroad companies, joint stock companies, copartnerships, etc., together with all who have an interest in the capital or profits of such organizations. Each such company is to report to the Controller once a year its capital, its receipts from all sources during the preceding year, the amount of surplus earnings, an estimate of its real and personal property, the assessed valuation of such real estate, and the place where its business is carried on from which it derives its principal income. In addition, telegraph companies are to report the counties of the State in which they have transacted business during the year, and the number of miles of wire used. Such reports are to be signed by the principal officers of the companies, and are to be duly verified. False statement is to be adjudged perjury, and subject the offender to imprisonment for not less than one year, nor more than five years. Failure to report at the time and in the manner provided is to subject the offending company to a fine of \$1,000, and \$100 for each day it shall be in default and until its report is filed. The Controller is authorized, whenever he shall deem it necessary, to examine the books and property of such companies as are required to report to him, and to examine any of their officers, on oath, in relation to the company's income, property, and franchises. A Board of Railroad and Telegraph Appraisers is provided for, which is to fix the value of the property of each of the railroad corporations and telegraph companies in the State.

Mr. Field and the Andre Monument.

We mentioned, last issue, that Mr. Field's proposal to erect a monument to mark the spot where Major André was hung as a spy had been severely criticized. Mr. Benson J. Lossing, the well-known historian, has written a letter, in which he says he thinks every right-minded and well-informed American citizen will commend Mr. Field for his patriotism and generosity. Dr. Lossing disposes of a charge, made over the initials "J. C."—that Mr. Field proposed to put on the monument, as those of Washington, words never uttered by Washington—and adds that "J. C." undoubtedly remembers that once before in his honorable career Mr. Field was falsely accused of "forgery" and "fraud" and "deception" for a sinister purpose. I well remember, he says, when, after the Atlantic cable was successfully laid, in August, 1858, and congratulatory messages between Queen Victoria and President Buchanan had passed over it, it suddenly ceased to operate, and slumbered in the ocean bed many long months, that the public were greatly disappointed. Some inconsiderate newspapers charged Mr. Field and his associates with the crime of having forged those dispatches, and of perpetrating a "huge fraud" for personal gain. One newspaper remarked: "Now that the great cable glorification is over, we should like to ask one question: How many shares of his stock did Mr. Field sell during the month of August?" Now and for thirteen years the unceasing pulsations of that mysterious vehicle of intelligence between continents and the islands of the sea, throbbing in the bosom of the ocean, pronounce, every moment of time, a refutation of, and a severe rebuke for, the ungenerous accusation. Contemplating the past, Mr. Field can afford to disregard these petty attacks upon his honor and patriotism in this minor transaction of his life with an assurance that the good sense, average intelligence, and love of fair play of the American people will do him justice and appreciate his good deeds.

Lightning-Rods.

Unless properly constructed, and intelligently placed on the building, lightning-rods are sources of danger rather than of protection. The following particulars may be of interest to our readers:

1. The rod should be of some good conducting material, preferably of copper. If of iron, its area of cross-section should be at least six times that of the copper.

2. A current of electricity flowing through a

conductor passes through the substance of the conductor. *The extent of surface of the conductor does not affect its conducting power.* In every lightning-rod, therefore, the conductor should be of sufficient area of cross-section to readily conduct to the ground any bolt that may strike the rod.

3. The rod should be pointed at its upper extremity; one point, however, is quite ample.

4. The insulation of the rod from the outside of the wall is a matter of but little importance. Great care, however, should be observed not to allow the rod to pass down those portions of the outside of buildings near gas and water pipes, unless in metallic connection therewith.

5. If large masses of metal lie near the rod, at any portion of its length from the roof to the ground, these should be placed in good electrical connection with the rod. For example, the rod should be connected with the tin or copper roofing of buildings.

6. Above all, it is necessary that the rod be well grounded; it is not sufficient to bury the end a few feet in the ground. The lower end should, in all cases, be carried down to permanently moist earth. To secure an extended surface of contact, it is preferable to have the lower end forked.

Where gas or water mains are accessible, it is very desirable to place the rod in electrical connection with them. The failure of lightning-rods to protect buildings is generally attributable to bad earth connections; for if the lightning passing down the rod cannot readily escape to the earth, it will enter the building and damage it.—*Exchange.*

The Detection of Torpedo Boats.

The Times of the 15th April contains a paragraph which we as yet cannot understand. It speaks of two lights from one machine as a wonderful discovery, and altogether the writer seems to have gone completely out of his depth. "An important discovery," says the writer, "has been made at Portsmouth in the use of the electric light as applied to our ships of war for conning the waters around them and thus enabling attacking torpedo boats to be detected and assailed. Up to quite recently one light only could be produced at the same time by one engine and one machine, but on experimenting with Mr. Henry Wilde's patent electro-magnetic induction machine it was found that a couple of lights could be produced from a machine by simply connecting the two projectors; or, in other words, by producing continuous currents by joining the two lights with the generator. That this improvement is of great importance will be readily understood when it is borne in mind that the cost of generating a powerful light on board ship—amounting to about £1,300 even when steam is supplied from the ship's own boilers—has restricted the use of the machine to the production of a single light. This was to deprive the electric light of a great part of its practical value as a torpedo detector, as a wary enemy might find it quite possible to come to almost close quarters without being discovered. The range commanded by one light is generally not much more than half the horizon. Now, however, at a trifling increase at first cost a complete and efficient arrangement can be obtained. This important result has been brought about by means of experiments made while considering the best fittings to be given the double turret-ship *Devastation*, now completing for sea at Portsmouth; but the same improvements will, doubtless, be introduced into the electric apparatus of the *Iris*, *Dreadnought*, *Neptune*, and other war ships."—*London Times.*

How a Telegram Saved a Train Full of Passengers.

Among the cars injured in the accident at North Beverly was one used by the Eastern Express Company and owned by the Eastern Railroad. The night train from Bangor last Wednesday night contained this car, and in it, just before the train reached Portsmouth, were the

conductor, messenger, and baggage-master. Suddenly one of the gentlemen felt a jolt, as if the car was dropping from under him, and sprang to his feet and caught hold of something firm in the hope to save himself in the expected crash. The conductor, seeing the movement, seized the bell-rope, but as he felt nothing strange did not ring, and the train passed on to Portsmouth. No examination was made here, as was formerly the universal custom, and the train proceeded toward Boston. It had hardly left the depot before the night watchman found on the track between the rails a lateral car spring, and thinking it could come from no other place but from under this train, he hurried to the telegraphic office and sent a dispatch to Greenland, the nearest station, five miles away, to stop the train and examine it to see if a spring had been lost. The green light was accordingly displayed, and the train brought to a standstill, when it was found that the spring had come from under one corner of the express car. It was the falling of this spring upon the track which caused the jar already spoken of, and which awakened the gentleman from his dose beyond Portsmouth. If it had fallen upon a rail a wreck would have been inevitable. Had the car lurched badly upon the bridge at Kittery, the signal tower there would have been struck, and disaster would have resulted. Had the spring dropped elsewhere than within the range of the watchman's vision, the train would have sped on until it had reached some curve at speed, when the cars would probably have been torn from the road-bed into ruin. Thus the benefit of running a road by telegraph is exemplified, and thus the tell-tale click over the wires saved life and limb, and also the entailing of a heavy financial loss upon the road. But Providence ruled that there should be prompt discovery of the danger, and not only the passengers, but the whole community, should have feelings of profound thanksgiving.—*Boston Globe.*

Dashes Here and There.

A new cable is to be laid between Norway and Germany.

Edison has taken out another patent in London for his electric light.

The students of Columbia College have issued a paper called *Phonograph*.

The wife of J. W. Simonton, General Agent of the associated press, died suddenly May 12th, of heart disease.

The use of telegraph wires for messages from one part of Paris to another ceased May 1. Blank forms for messages are sold to the public, and may contain any number of words. The charge is ten cents if the form is left open, and fifteen cents if it is closed.

M. Clemandot, of Paris, has invented a globe for electric lights. It is double—one globe placed inside the other, and the space between is filled with powdered glass. It is said to diffuse the light without lessening its illuminating power so much as the opaline globes generally used.

AN ENIGMA.—I am very queer in my ways. To be perfect, I make trouble, and when perfect all operators dislike me, they never fail to recognize me whenever we meet. They are often like me themselves, and are continually using my name, which is composed of five characters of the Morse alphabet. ANSWER—A Cross.

During the year 1877 there was a slight increase in the receipts for telegraphic service in Austria. The number of government telegrams was 64,695, against 71,930 in the previous year; private telegrams numbered 4,032,838, against 3,747,580, being a decrease of 7,235 in the former case and an increase of 285,258 in the latter. Through messages were as follows: Government 8,707 against 8,523, or an increase of 184; private 634,451 against 584,451, or an increase of 49,763.

The height of ambition with boys in the rural districts is generally to become a clerk in a country store. After this stage of yearning has passed harmlessly by, the boys nearly all want to be telegraphers. There are few people who did not, some time in their lives, yearn to know the click of the brass instrument. To fill this long-felt want almost every city has a telegraphic college, where the

expectant youth is given to understand that splendid situations are waiting for just such persons as he is. The OPERATOR, of New York, a reliable journal in matters pertaining to telegraphy, says the most of these institutions are worthless. Besides, there are very few situations at \$100 a month begging for occupants. The fact is that hundreds of competent operators are now out of work, and would be glad of situations almost at any figure. Many A 1 telegraphers would be only too glad to get \$40 a month, while the majority are thankful for \$20. So says the OPERATOR, young man; rather wrestle with a jack plane than manipulate the brass clicker.—*Detroit Free Press.*

The experiments which were made about two years ago by the Paris Lyons and Mediterranean Railway Company, with a view of illuminating the line by means of the electric light, and which were not carried out, have had, it appears, more practical results in Austria. The electric light has just been introduced on one of the Austrian railways for the purpose of lighting the line, being so arranged as to render any obstructions visible at great distances during the darkest nights. The apparatus, which is the invention of Mr Whitehead, the constructor of the celebrated torpedoes which bear his name, is fixed on the front of the locomotive.

Now that the publication of Mr. Edison's patents for electric illumination has made the public acquainted with the details of his process, the *Scientific American* calls attention to what had been done on this subject many years ago. Dr. John W. Draper, in a memoir published in 1847, gave an exhaustive examination of this subject. He used a strip of platinum, brought to incandescence by the passage of a voltaic current through it, and showed that the light emitted increases in brilliancy far more rapidly than the increments of temperature. The strip of platinum, brought to a proper temperature by the passage of the electric current, was connected with an index lever which measured its expansion. The results obtained proved that the increase in the intensity of the light of the ignited platinum became very rapid as the temperature rose. At 2,590° Fah the brilliancy of the light was more than thirty-six times as great as it was at 1,900°.

The proposed Transatlantic line of the Franco-American Cable Company is stated to include—first, a cable from New York to the island of Flores, one of the Azores. The copper conductor of this cable is to weigh five hundred pounds per knot. Secondly, a cable from Flores to France, England and Holland. Thirdly, a cable from Flores to Fayal, San Miguel and Lisbon. It is stated that a cable will also be laid from Lisbon to Genoa. Altogether, it is proposed to lay 7,300 miles of cable, including 4,200 miles of main deep-sea line. A through signalling speed of 25 words per minute is anticipated, by the use of the mirror instrument. About 2,000 miles of cable, including the lines between Brest, Belgium and Holland; between Brest and England; and between Lisbon and Italy, are to be heavily armoured; and there would be about one hundred miles of heavy shore-end, weighing eighteen and a half tons per mile. The steamer for laying the cables is estimated to cost from £60,000 to £75,000.

The London *Electrician*, referring to the pamphlet issued by the "Rapid" Telegraph Company, says: Although we imagined that we had at least a casual acquaintance with electrical theory and practice, but we are now promised such a thorough revolution in all that pertains to the application of electricity in telegraphy, that we begin to doubt if we understood the simplest facts of the science. Our telegraph department has prided itself upon being the equal, if not superior to that of any other country, but it must part with its laurels if one-half of the statements in this pamphlet are true. We confess to a little scepticism when we read that "there has been no visible improvement in the last quarter of a century in the building of telegraph lines; in the insulation of wires; in the wires themselves; or in the skill, accuracy, or rapidity of operating the same." It is amusing, too, to hear an American saying that "there has been no earnest desire and no successful attempt to introduce mechanism in aid telegraphy." Recent articles in American papers have given to understand that of late years a great deal has been done, with, perhaps, an unimportant minor exceptions or two, has primarily emanated from that side of the Atlantic. Now some of the American authors must be wrong. They can, however, decide among themselves which are the guilty parties; meanwhile, we are contented to watch carefully for the germs of real progress prob-

ably to be found under the mass of verbiage and boasting which herald the advent of the new company.

Echoes from 197.

For the week ending May 24th, 1879, there was handled in New York office 225,000 messages, being an increase of 41,000 over the same period last year, or a gain of about twenty-two per cent.; this was exclusive of press reports.

Mr W. S. Lewis, of the day force, is as genial, witty, and sociable as ever. "Billy" is a rare conversationalist, and there is a quaint humor in his way of putting things that never fails to draw a smile from the most sedate.

As one by one the "old timers" gravitate to New York and drop into more or less lucrative positions at 197, the kindly face of Jerry Borst lights up with a smile of welcome, and volumes of reminiscences play over his countenance. Dear old Jerry! "May he live long and prosper."

The payment of the next dividend will soon be made, and it is understood that a Congressional committee has been invited to visit the treasurer's office to witness the large number of widows and orphans (who are entirely dependent on this source of income for their support), gratefully receive their shares. Happy are they who dry the tears of the widows and orphans.

Mr. H. McGonegal, of 819 Sixth Avenue office, has been, by universal consent, installed as the "most fittest" man as superintendent of 44, city. He appears to spend one-half of his time in calling up offices who are too busy to watch for him there, and the other half in composing B. O. S. reports for the amusement of those who haven't got as much time to spend this way as he has.

The company seem to have considerable difficulty in deciding upon the disposition to be made of the surplus stock in their possession. It doesn't appear to strike them that eight per cent. is a pretty high interest to receive on their investment, and of course it would be the height of absurdity to expect them to devote one or two per cent. of it for the benefit of those whose interest in their business is now no longer their principal aim in life, thanks to the appreciation their efforts have received in the past.

PERSONALS.

Mr. and Mrs. L. G. Tillotson sail for Europe, Saturday, May 31st, to spend the summer abroad.

Mr. Adams, well known as Mr. T. A. Edison's English agent, died Sunday, May 4th, at Paris, after a lingering illness.

John Lenhart, formerly of the Gold and Stock has taken a position on the Long Island R'y in the dispatcher's office, at Long Island City.

Chas. A. Wood, late operator on the C. R. J. and P. Railway is now Agent for the Atchison, Topeka and Santa Fe, Ky., at Turner, Kansas.

F. P. Marsh, lately night operator, Rodebaugh's Tower, Penn. R. R., has resigned that position, and is about to embark in a more lucrative business.

Mr. R. S. Brough, late officiating electrical superintendent in the Indian Telegraph service, died suddenly on the 3d April, from cholera.

The Warren, Mass., Western Union office, of which Mr. George H. Bancroft is manager, has been removed from Knowles' pump works to the depot.

H. C. Garvin, until lately car clerk at the depot of the Northwestern railroad at this point, has been promoted to the position of telegraph operator at New Ulm, Minn.

Mr. Edison has achieved enough already to ensure lasting fame, but if his triumph with the electric light is all that he seems to anticipate, his rank will not be inferior to that of any discoverer who ever lived.

A. B. Gibson, formerly an operator on the B. and O. Railroad at Everson, Pa., has resigned his position, and is about to establish a plug factory in Scottsdale, Pa. Mr. Gibson has the sympathy of his fellow operators.

As soon as your valuable paper reached us containing a paragraph in reference to Crosby J. Ryan, and the item caught our eye, we at once made up a purse of five or six dollars for our brother, every one of us subscribing something. We clipped the item from THE OPERATOR, and forwarded it to Louisville, Ky., for a fund to be raised there. We felt it our duty to help Ryan out all we could, and no doubt, the fund, though small, was gladly received. He stated in acknowledging receipt of the money, that he had a wife and five children to support in some way, and that he had applied to many different superintendents for situations, but they all had refused him. We considered him an object worthy of charity; such an object as we do not meet with every day. NASHVILLE OPERATOR.

A marriage by telegraph occurred at Milwaukee, May 23d, the bride, Miss M. E. Buddington, being in Superintendent Haskins' office, Milwaukee, and the groom, Mr. Lou W. Walker, at Owatonna, Minn. Professor Haskins, when the officiating clergyman, a brother of the bride, propounded the important question, there was some delay in the response. Superintendent Haskins suggested that the operator at the other end of the room was nervous. The bride entered into the spirit of the affair, and remarked that it would be rather embarrassing if he should say no. "He is pondering over the question," remarked the Superintendent. At last the answer came. "I do, and pledge her my love and protection. Lou W. Walker." The minister then finished the ceremony, bestowing the ring, and pronouncing the benediction. The bride left the city on the 8:45 train to join her husband.

GRAND RAPIDS, MICH.—Frank Howell has resigned position at the general office of the G. R. and I. R. R. Co., to accept employment in Milwaukee, Wis., with the Northwestern Telegraph Company. Frank has been with this company for two years or more, and has proved himself a good operator, and a very worthy young man. He has the good will of the officers of the company, and his many friends on the line and in Grand Rapids wish him a "happy" experience in his new field of duty. He was relieved by W. H. McLean, of Morrisonville, Ill., whom we hope will make us as reliable a man as his predecessor. On account of reduction of force, Harry Kennedy, who officiated at the "Morton," has been transferred to East Saginaw. Charley Thompson is out of the city for a few days' recreation. E. W. Dennis, one of the antiquities in the profession, is a fixture in Grand Rapids as a grain broker in the interest of Chicago firms. We wish him a good harvest.

MARRIAGES.

SHARP—MILLER.—May 15, at the residence of the bride's parents, by Rev. Samuel E. Webster, Mr. Charles B. Sharp, manager of W. U. Tel. office, Phillipsburg, N. J., to Miss Sophia Miller of Washington, N. J.

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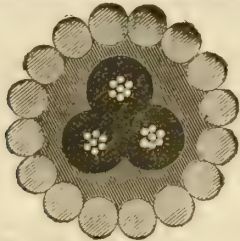
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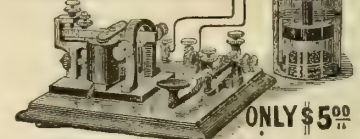
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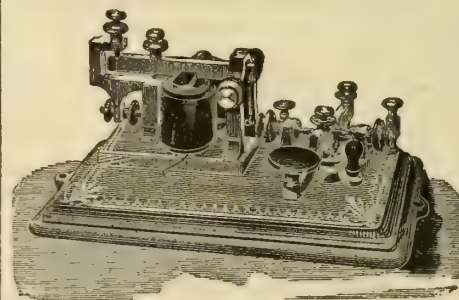
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A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY.

Vol. X.

NEW YORK, JUNE 15, 1879.

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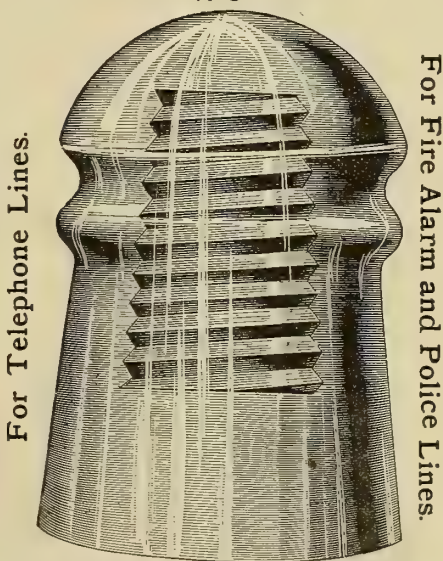
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THE OPERATOR

A JOURNAL OF
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The Rain Upon the Roof.

ALTERED.

When the starry vapors gather over all the starry spheres,
And the melancholy darkness gently weeps in rainy tears,
'Tis a joy (?) to press the key-knob of a heavy wire's end,
And try to say "adjust" to the plug that's put to send.
Every tinkle of the sounder has an echo in the heart,
And a thousand smothered curses into louder phrases start;
And a thousand louder follow as you wildly stamp your hoof,
While you listen to the patter of the soft rain on the roof.

There in fancy comes his sweetheart as she used to years ago,
To caress her infant plugship ere she leaves him till the dawn.
You can see her bending o'er him, and you listen to the strain
Of her sweet voice as she whispers, "Rush him, darling, that's a man."

* * * * *
There is naught in art's bravuras that's so near akin to hell
As a telegraphic wire—one that makes your passions swell
With that melody of lightning—that tantalizing strain
Which is played upon the sounder by a plug who sends with pain.
N. M. IN.

An Experiment that Did Not Work.

When I come to reflect on the instability of worldly affairs, and consider what insignificant trifles will change the whole current of a man's existence, I begin to realize the full force of the poet's meaning when he says:

"This world is but a fleeting show,
For man's illusion given."

I suppose I have met those lines hundreds of times during the course of my rather promiscuous reading, but until now they never conjured any idea in my mind beyond a gentle feeling of curiosity as to whether the man who wrote them was really responsible for his utterances. But the truth embedded in them has recently been brought home to me in a manner that admits of no argument.

Montgomery C. Higginbottom was operator at Carrawampus Station, where he had what is technically described as a "soft thing," viz., very little to do, and a good salary for doing it. His record as an operator was good, and, being related to the superintendent, his chances of promotion were promising. His credit at the hotel stood A1, and among the different tradesmen necessary to an operator's existence, it stood fair to middling. Besides these advantages he was gifted with a generous, open-hearted disposition, and was a general favorite with his fellow employees from the high toned and authoritative passenger conductor to the unassuming and philosophic section man. Of him it might be said that his ways were ways of pleasantness, and all his paths were peace. And to all appearances he had climbed as high a pinnacle of happiness as an operator is permitted to reach in this vale of tears and tribulation.

Yet to the intense surprise of the whole community, he suddenly disappeared from Carrawampus

about a year ago, leaving no clue of any description to account for his mysterious departure. His books and accounts were all in excellent order. He had embezzled nothing, and after all manner of conjectures had been ventilated, it was settled that he had met with foul play, and there the matter ended. Twelve eventful months passed rapidly away, and Higginbottom had faded from our minds, or was remembered only in the numerous and somewhat exaggerated legends of telegraphic life which circulated when a number of us would meet together on some festive occasion, such as a raffle, a picnic, or an excursion. Recently, however, I was seized with a filial desire to visit the home of my childhood in Western Canada, and, a few days after my arrival, while driving along near the rural but classic village of Medina, I overtook a milk wagon drawn by an ancient and venerable looking quadruped, which under protest I will call a horse, and driven by as melancholy and forlorn looking an individual as it has seldom been my lot to behold. Something about him struck me as familiar, and my surprise may be imagined when upon a closer examination I found the funeral individual was none other than our old friend Higginbottom himself. But, alas! what a woeful change one short year had wrought in that once happy youth. Where now was that free and airy style which distinguished him from common men? Gone, and its place usurped by a sad and dejected air, like an operator whose wardrobe has been seized for board. His eyes that once twinkled merrily, and reflected his joyous nature in every motion, had now no more expression than the dial of a clock. Even his ambitious but bashful moustache, upon which he used to lavish so much attention, drooped mournfully on either side as if all hope had fled. After the first greetings were over, and having answered his numerous inquiries concerning old friends, I asked the reason of his sudden flight from Carrawampus. Seating ourselves under the leafy and overspreading branches of a roadside elm while the birds caroled gayly in the foliage, and the straddle bugs ran foot races around our necks, he unfolded his mournful tale.

It appears that sometime previous to his departure, a charming young lady had come to Carrawampus to teach school, and had taken up her abode at the boarding house that Higginbottom honored with his presence. Thrown considerably into each other's society, they soon became warm friends, and friendship ripened into love—that is on his part—but the bewitching instructor of the young idea did not reciprocate his tender attachment with the necessary ardor to inaugurate a first-class love story. On the contrary, and much to his disgust, she rather encouraged the advances of other young men whom Higginbottom murderously regarded in the light of a rival. How unlike the majority of our illustrious fraternity who generally contrive to worry through such disappointments without much fracture or mutilation of the heart! Higginbottom was stirred to the innermost depths of his anatomy. Life looked cold, and dreary and desolate to him now, and he conversed in dismal strains of suicide, the silent tomb, and other equally entertaining topics. It was in this unenviable frame of mind that he was sitting at his office door one evening, gazing pensively at the house which contained the object of his consuming, but unappreciated affection, and deliberating whether he would hang himself from the cross arm of a telegraph pole, or open his windpipe with a razor, when he happened to see his charmer at the parlor window in close *tete-a-tete* with an insurance agent. This was the finishing stroke for our love stricken brass pounder. Driven almost frantic at the sight, he vowed vengeance of the most blood-curdling description. For a long time he sat like a man in the blues, while the dispatcher called him frequently and furiously, and muttered curses both loud and deep because he could not raise him. Suddenly Higginbottom was seized with a happy inspiration, and rushing into the store-room he fished out an old sausage grinder which had been expressed years before, but never claimed, and which was now to undertake a character for which it is safe

to presume the inventor never intended it. After satisfying himself it would answer his depraved purpose, he quietly took it over to his boarding house, depositing it in his room, and after hanging mysteriously around the parlor door a few minutes he returned to the office, and when the dispatcher demanded an explanation of his not being on hand, he artlessly replied that "he had run out bareheaded to drive a cow off the track," and got sunstruck! Such is life—on a railway.

Then he patiently awaited the appearance of that insurance man, whom he at length observed sauntering toward the station with a complacent and self-satisfied air. Entering into conversation with him after a few remarks about the weather, the national policy, and the Dunkin Act, Higginbottom asked him if he had seen his new phonograph. The man of policies and premiums had not seen it, and on his expressing a desire to behold an instrument of which he had heard so much, Higginbottom declared nothing would afford him more pleasure than to show it to him, and explain its wonderful mechanism. It was over at the house just now, he said, so he cantered over, and immediately returned with the simple and unpretending sausage grinder, which he wickedly proposed to palm off on that unsuspecting insurance man for a phonograph.

Tenderly adjusting it on the head of a barrel, he unblushingly proceeded to explain its principle. "Now, you understand," he said, "This little machine repeats correctly and distinctly every word spoken in its vicinity. It has been in the parlor of my boarding house all the evening," he casually remarked, "and we will now make it disclose what it may have heard there." Here a dangerous look crept over the insurance man's features, and his muscles quivered in a way that suggested an unhealthy atmosphere in the sweet bye and bye, but our enthusiastic electrician was too deeply wrapped up in the success of his scheme to notice any such indications of a storm. Being an amateur ventriloquist he intended to repeat a few words he had overheard of the insurance man's conversation, and lead him to believe he had only to turn the handle to grind it out in all its original entirety. So with a preparatory "Listen, now," he gently turned the handle, and amid the creaking of rusty wheels, a weak and choky voice was heard coming from a suspicious locality, saying, "Now, Amelia, dearest, don't keep me in suspense." Dark lightning flashed from the insurance man's eyes as he heard those words, and before the handle could make another revolution, he sprang upon that unfortunate young man, and the next moment the centre of attraction was a heterogeneous mass, consisting of Higginbottom, the barrel, the sausage grinder, and the insurance man, and the sounds proceeding from that struggling group were the low mutterings of war.

It didn't last long, however. The insurance agent was a big man, and his heart was in his work, and five minutes after he started in, it was difficult to distinguish which was Higginbottom, and which was the barrel. As for the sausage machine, it was a complete and total wreck, and had to be swept up with a broom. Higginbottom crawled from his refuge under the platform sometime during the night, folded his tent like an Arab, and silently stole away.

"That's why I left Carrawampus," he sighed, as he concluded his doleful tale, and after a solemn warning to beware of the sex in general, and school-teachers in particular, he woke his antiquated steed from a peaceful slumber, absently dropped the stub of his cigar into a milk can, and with a melancholy farewell drove gently away toward Medina.

And as I turned my horse's head homeward, I fell into a reverie on what I had heard, which lasted until my horse turned into a farmyard, the gate of which stood invitingly open, and deliberately, and I believe, with malice aforethought, walked under a clothes line which caught me under the chin, and I stepped out on my head over the back of the buggy, with a promptness that was at once both vigorous and disgusting.

Q. CUMBERS.

CUMBERSVILLE, ONT. CAN.

The Electric Light in a Circus Tent.

The electric light at Cooper & Bailey's circus has proved a wonderful thing. On Saturday night, when the people entered the first menagerie tent, it was as light as midday, and a man's shadow reflected on the ground was as clear and clean-cut as if it were done in silhouette. Holding up the hands, pantomime fashion, every curve and motion of the fingers could be seen with the distinctness and clearness of an illuminated picture. Above the head burned what seemed to be two small balls of fire without any flame or smoke, and of such dazzling brilliancy that the naked eye could hardly stand the glare for an instant. A million little needles of variagated light seemed to be perpetually shooting out from the body of the fire, giving each the appearance of a small chestnut bur. Looking at the light through smoked glass they took on an entirely different appearance. The little needles were not there, and the eyes saw simply a 'round ball of white fire, about the size of a small marble, seeming, in its whiteness and the intensity of its heat, like a drop of molten metal. Two of these small lights burned there, rigged on poles, about thirty feet apart, in the large menagerie tent, lighting up the place in such a way that colors in cloth or anything else could be distinguished as completely as by the light of day. Passing into the next menagerie tent, the same sight was presented. Here two electric lights produced the same effect as in the first tent. The brightness was wonderful. No moonlight ever sent out a tenth part of such brilliancy. So completely were the tents illuminated that from the outside could be plainly seen on the white canvas the shadow of the animals and wagons, and even of the men walking about inside.

But the great scene was in the circus tent. It is large enough almost to contain both the menagerie tents. Here were six electric lights. There were also some gaslights. The gas must have been there for the sake of the contrast. The difference was remarkable. The electric lights were of the purest and softest white; the gaslights, though burning at a full head, seemed faded and yellow. Although the electric lights in this tent had globes on—as the naked glare of them all must have almost blinded the audience—every nook and corner of the immense tent was as bright as day. An idea of the power of a single light of this kind—which is said to be the largest electric light made—may be gained when it is known that, when allowed to burn without a globe, it will make a shadow out of a gaslight.

There was great curiosity and no little anxiety among the circus people and electric light people to see the thing work. The intention was to have it, if possible, in operation on the opening night, Monday, but when the time came it was found it could not be done. Three or four experienced men were sent on by the Telegraph Supply Company, of Cleveland, the manufacturers of the machine, to get it in order. On Friday night everything was in readiness, and the machine was put into operation. This is the first time the electric light has been used under canvas, and its success has been a great card to the manufacturers as well as to the circus managers. The latter have bought the exclusive right to use it under canvas. The cost of the machine alone was \$15,000. It is the largest machine of the kind made. It is known as the Brush dynamo-electric light, Charles Brush being the inventor.

Any one who understands anything about telegraphy will be able to form an idea of the way in which the machine is run. There is a regular battery, worked by a thirty-horse power engine with a forty-horse power boiler. This engine has been built expressly for this electric light by the Fitchburg Engine Company, of Fitchburg, Mass., and is constructed on a wagon, occupying one end, while the battery occupies another. The battery seems simple in its construction, but all-powerful in its effects.

"Have any of you gentlemen watches in your pockets?" asked one of the electric light men, on Saturday night, as a party gathered around the wagon, where the engine was puffing away, to examine the battery.

One voice answered in the affirmative.

"Stand back, then," said the electric light man; don't come within two feet of this battery if you don't want your watch spoiled."

"What?"

"It will magnetize all the steel in your watch, draw the springs toward any steel screw it may have. It's the attraction of the magnetism. I've had two watches spoiled in that way."

All this time a revolving shaft between four blocks of steel was whirling with lightning rapidity. The four blocks of steel and the revolving shaft were the all-powerful elements in producing the electric light. These five simple things in the way of copper plates and wire were producing such a tremendous current of electricity that, in the words of one of the electric light men, "if you were to stand ten miles off and touch that electric shaft—or commutator—with a piece of electric wire, the wire would burn up like a flash."

"Touch that copper plate," said the electric man pointing to a harmless piece of copper on the edge of the wagon near the whirling shaft. One of the party did so, and jumped back, jerking his arm away as though he had been shot.

The four blocks of steel are the magnets. They are oval in shape and covered with copper wire, coiled tightly around them. The commutator revolving between them is what generates the electricity. It is run by a belt connecting its one end by the belt-wheel of the engine. It makes 750 revolutions a minute, and with every revolution the current of electricity travels once around the circuit, or, in other words, around the wire which connects the electric light in the different tents with each other and finally comes back to the battery. The principle is the same as that of telegraphy. Twenty-eight hundred feet of insulated cable wire does the work. This is sufficient to conduct the electric fluid through the three large tents and half a dozen smaller ones and back again to the battery. At intervals on this circuit are the electric lights.

After all is understood about the battery there still remains an important element, which must be described apart from the others. This is the carbons on which the electricity feeds and thus produces the light. They cannot be better described than simply to say that they are placed in the burners the same as a wax candle is placed in a candlestick. Take the copper rod about twelve inches long and three eighths of an inch in diameter and lay it beside a carbon used for the electric light, and the two could not be distinguished from each other—not by looking at them. As soon as the carbon would be taken in hand, however, the difference would be discovered, for it is as light as wood. Two of these carbons are used to each electric light, one sitting in an upright position in its iron candlestick, and the other being inverted. The ends of the two thus come so close together that a knife-blade could scarcely be pushed between them. One end is negative, and the other positive, according to which candlestick they are in. Between these two ends is that little ball of fire which produces the dazzling light. These carbons burn up slowly, always being attracted toward each other, and keeping the same distance between them, until by-and-bye they get so short they can no longer be used. Two carbons, each twelve inches long, will burn for eight hours. An arrangement is now being perfected by the manufacturers of the above machine by which double carbons may be used, which will burn for twenty-two hours.

The intense heat between these two carbons may be known when it is stated that no fire, save that generated by electricity or chemical process, will burn them. A copper cent thrust between them will burn in two in an instant. They are made from the carbon taken from gas retorts, which goes through a rather complicated process before it is ready to be used as the electric light. First it is ground up, and made into a paste. It is then put in molds, and made into sticks, round and square, after which the hardening process begins. How hard the sticks are made will be understood when it is known that they are put under a hydraulic press, and pressed with a pressure of one hundred tons to the square inch. After

this they are baked for forty-eight hours, and then put through a chemical process, and thoroughly cleansed. Lastly they are electro-plated with copper, after which they are ready for use.

As has been said, there is no flame or smoke, only a fierce dazzling ball of flame between the points of the carbon, like molten metal. Wind, or storm, or rain cannot affect the light one bit. Fed by the powerful electricity, it burns and defies the power of the elements. The light will burn under water as well as above water. Cooper & Bailey are having a strong glass case made for the purpose of demonstrating this. It is said that a single electric light of the size and power of this one described, if sufficiently elevated, and with a reflector large enough, would make the darkest night almost as light as day for the space of fifty miles.

Altogether, there are eighteen electric lights to this machine, ten of which were in operation on Saturday night. These eighteen lights are equal to 35,000 jets of gas. Mr. Cooper states that their saving on gas by their new purchase will not be less than \$10 an hour, which is about one-half of the gas bill per hour. The cost of running the engine is the fuel used, and a smoke burner consumes all the sparks. Only two men are required to run the machine, the engineer and the man who has charge of the battery and lights. The machine is on the same principle as that of John Wanamaker's, though much larger.

In the Eastern States the machines have been introduced in a number of the very large manufacturing, which have done away with gas completely. At Willimantic, Conn., a certain large thread manufactory, it is said, saves eighteen dollars an hour on gas by the electric light. In Conant & Co.'s thread factory, in Pawtucket, R. I., the saving is about the same. In Lowell and Lawrence, Mass., most all the large factories have dispensed with gas, and are using the electric light. Its great feature in the cotton and thread factories, aside from the saving of gas, is the fact that with it operatives are enabled to distinguish the color of cloth or thread by night.—*Philadelphia Times*.

Mr. Preece's Cantor Lectures.

Mr. W. H. Preece, in a recent lecture—or more properly, series of lectures—said that in the English postal telegraph service, three kinds of Daniell battery were employed, viz.: the "Ordinary," introduced by Mr. John Fuller, which consisted of cells formed in a trough by slate partitions covered with marine glue, each cell being divided by a porous partition, the zinc plate being in one compartment, and the copper in the other. The "Chamber," introduced by Mr. Muirhead, had flat, porous cells, instead of the porous partitions of the ordinary. The "U. K.," so called from its having been employed by the United Kingdom Co., had round cells, with round zincs and coppers. The Leclanche and the bi-chromate battery of Mr. John Fuller was also largely employed. At the Central Telegraph Station, in London, the number of cells worked was as follows: Ordinaries 500, Chambers 12,750, U. K. 2,450, Leclanche 500, Bi-chromates 1,650, giving a grand total of nearly 18,000 cells. Mr. Preece stated that England is very far ahead of other countries as regards battery arrangements. The "open" and "closed" circuit methods of working were explained, and also the "universal" system of working several circuits from one set of batteries was alluded to; this system was being extensively adopted in England, and with success.

The first telegraph laid was in 1837, by Cooke and Wheatstone, the wires being buried in the ground, and insulated with cotton steeped in pitch, the wires being then laid in grooves cut in a strip of oak. Specimens of this, dug up three or four years ago, were exhibited, the name of "fossil" telegraph being given it. In 1840 the wires were erected on poles, goose quills being used as insulators. Copper wire was at first used for telegraphic purposes, but was soon abandoned on account of its liability to stretch permanently, and also from its expense. Charcoal iron wire was also used, but was found to be too expensive. But little attention was at first paid to

to the conductivity of the wire employed, the No. 8 iron wire at first used having a resistance of 20 ohms. per mile. About the year 1870 the quality supplied gave a resistance of 15 ohms. per mile, and at the present day, wire of 11 ohms. resistance per mile was obtained. The wires generally employed were of No. 4, No. 8, and No. 11 gauge.

Iron wire in passing through towns was protected from corrosion by a hemp covering well tarred; copper covered wire has also been tried in South Wales, but only lasted three years, as the covering cracked. The number of insulators that required placing annually was 86,000. Insulation was very difficult to maintain in England on account of the moist climate; near the sea-coast especially, the leakage was very great, the insulation resistance per mile frequently going as low as 20,000 ohms. per mile. The number of poles per mile employed varied from about 22 for light extensions to 30 for very heavy lines. The best preservative for the timber was creosote. Iron poles, except for special purposes, were too expensive. The Norway pine was the wood generally used for poles. Each pole was ground wired, and had wire twisted round each arm two or three times, and connected to the ground wire, to intercept leakage from wire to wire, which caused "weather contact" in wet weather. Great difficulty was found in preventing leakage at the terminal poles, and a new terminal for the purpose was under trial. The underground work in towns was gutta-percha wire, No. 7 size, the copper weighing 39 lbs. per mile, and the gutta-percha 46 lbs. The gutta-percha wire lasted about 20 years in the streets. The mileage of line and wire at present in use in England is as follows:—

	Land Lines.	Wire Lines.
Road,	11,055	38,821
Rail,	12,952	58,127
Canal,	432	4,123
Underground,	446	9,024

giving a total of 24,885 miles of line, and 110,095 miles of wire. The total length of the cables in the postal telegraphs was 3,809 miles. As regards the relative costs of underground and open work, it was stated that the former was three or four times as expensive as the latter.

Mr. Preece stated that the mistakes made with the sounders are fewer than with some of the other instruments. The use and construction of relays was explained. Sir C. Bright's bell instrument was described, as was Hughes' type printer, of which the post office has four in use. *The Times* newspaper has the use of a private wire to Paris and Vienna, and uses the Hughes' apparatus for its messages.

The following collected statistics of the various apparatus in use by the Postal Telegraph Department at the present time throughout the United Kingdom were given:—Public and private instruments—automatic, 167; printers, 1,560; bells, 277; sounders, 1,380; needles, 3,495; A B C, 4,641; other kinds, 859—giving a total of 12,379 instruments.

There are in England, said Mr. Preece, speaking of the duplex system, 320 duplex circuits at work, and the aggregate mileage of wire so worked is over 40,000 miles. Various systems of duplex working were described, and it was mentioned that Mr. Stearns, to whom the principal credit is due for the introduction of this system, had succeeded in duplexing the Atlantic cable at the rate of twenty words of five letters each per minute in each direction. The disturbing influences, such as temperature, earth currents, thunder-storms, etc., and the means taken to obviate their bad effects were described. Connected with the development of duplex work were Gintl (1853); Frischen (1854); Siemens and Halske (1854); Stearns (1868); and, as having done special work connected with cables, Muirhead. There are six circuits filled with quadruplex apparatus in England, but in America there are sixty-three circuits, over which the Western Union Telegraph Company send eight million messages per annum. Mayer and Baudot's system of multiple telegraphy, as well as the system of harmonic telegraphy, invented by Cromwell

Varley in 1870, and practically carried out by Elisha Gray in America, were described. The systems of duplex and quadruplex working were shown in actual operation over a wire connecting the room of the Society of Arts with the central telegraph station. Many messages were sent to and fro, and the audience evinced great interest in the system.

Chicago and Janesville.

The very lenient exposure of the Janesville (Wis.) Telegraph Institution, or which now exists in a precarious condition under the name of "The Northwestern School of Telegraphy," met with universal approbation here. The fact that this "Northwestern School of Telegraphy" has furnished Chicago branch offices with graduates for the past two years has never for one moment been doubted by an operator who attempted to do business with their novice element. In the first place, young men are lured into the school by circulars which hold out to them such absurd promises as rendering them "first-class men" in from four to five months. When this stated time expires and the dupe expects his \$40 a month as a beginning he is simply shipped to Chicago to gain a practical knowledge of the business, which he is supposed to worry out of the employees of the Metropolitan Telegraph Company.

The salaries the students receive from the Metropolitan Company at first is \$10 a month. When there happens to be a vacancy (which is often) they are promoted to positions as operators, but under unaltered salaries. Now and then some fortunate gains an office that pays \$15 or \$20 a month. If he ascends to the topmost round of the ladder and rests his weary feet in "Ch" (the main office) a princely emolument of \$25 or \$30 a month is paid him. This emulative class of telegraphers (first-class men) disappear about as rapidly as they come. After having spent from \$150 to \$300 in the effort to learn, seven out of every ten of them withdraw from the ranks, donned in the habit of a complete failure.

It is a mystery why and how so many crafty and promising "young Americans" allow themselves to be blind-folded when they see through the columns of daily papers and hear members of the telegraphic fraternity denounce these institutes every day. Adepts in the telegraphic profession are not turned out of colleges. If ever they complete a knowledge of the art they will invariably tell you that it was not through the good offices of a "college professor" or over the schoolroom wires that they gained it.

No one who knows the average depth of telegraphic lore that these "Janesville graduates" are possessed of will in the least pronounce it a disparagement. When I assert that their efforts and blunders are simply maranathas upon respectable operators, they will work for a mere nothing; and actually some of them for "glory." When an operator has been or is in the employ of the Metropolitan Company he is almost hopelessly debarred from the Western Union side of the house. This must be attributed to the inferiority and inability of these so-called "graduates" that are being imported from the "Northwestern School of Telegraphy" to the branch offices of Chicago.

ORACLE.

The American District Parade.

On Decoration Day the A. D. T. Co. turned out in force and made an exceedingly creditable appearance in the line of march. The boys were the recipients of many well-merited encomiums on their excellent marching and soldierly bearing, they being frequently likened to veterans in this respect. The patrolmen, under command of Captain Hazard, looked brave and intelligent, and inspired the business community with a feeling of safety and security. Without exaggeration, it may be said that there is nothing too Hazardous for them to undertake in the performance of their duty. The inspectors for the time being reversed the order of things and became themselves the inspected. There is a little story in connection with the appearance of these gentlemen that does not

tend to show those most directly concerned in a very enviable light.

The rules of the company oblige the manager, patrolmen, clerks and messengers to wear uniforms, which are furnished by the company, but not, as may be supposed, free of charge. The inspectors are not included in this rule. A week or so previous to the day of the parade an order was sent to all the offices whose managers were not to be participants therein, notifying them to forward their suits to headquarters for examination. To disobey would have been to forfeit their position, yet each one of them knew that the proposed examination was a mere petty subterfuge. The coats they had bought and paid for were purposely taken from them without either their permission being asked or an equivalent offered, in order that the inspectors might be made presentable on the occasion. It is not certain who was the originator of the order, but it is pretty generally understood that President Andrews opposed it.

The old adage applied to those who had the misfortune to exist (they could not be said to live) under a tyrant's government that "they could not even call their souls their own," might be very appropriately used in the present case with a slight variation, "they cannot call their clothes their own."

One of the managers, it would appear from the following, was equal to the occasion, however. When the order came to hand he immediately suspected what was in the wind and expressed himself to the effect that "he would be goll darned if he was going to let any man wear his coat," which was a new one, so he dispatched a boy with that garment to headquarters with strict injunctions to remain until it had been examined, and under no circumstances to return without it, all of which the messenger faithfully performed.

Another step or two in this direction will very soon cause the men to lose what little respect they now entertain for their superiors, and convince them that it is truly a boy's government that they are working for. Can the company afford to have them harbor such an opinion?

How Edison Made a Bug.

A correspondent of the *Indianapolis Journal* tells the following story of Edison: One of my letters spoke of the possibility of utilizing the present gas pipes by running the electric wires through them. "How is this wonderful Edison going to get his wires through the pipes, I should like to know?" asked an unbeliever. Edison thought it over.

"Why, see here, Johnson!" he exclaimed the next morning, "I will make a bug that will drag a wire through all the pipes in New York."

"Make a bug!" said Johnson; "what in the world are you talking about?"

"Well, I'll make a bug," said Edison, "an iron bug that will go where you send it and drag a wire after it."

His assistants drew around while he described his coming—or, rather his going—bug. Next day he hatched a rude specimen of that insect, as large as a coat button. And it stood out on the table and crawled!

It was constructed thus: A minute electro-magnet carried behind it a fine insulated wire, the armature of the magnet operating a friction pawl. Now, observe—every time the circuit is closed through the magnet the armature is attached, the pawl clutches the sides of the gas pipe with its claws, and the magnet behind is drawn toward the armature about a sixteenth of an inch. When the circuit is open, the armature reaches forward, ready to take a second step. Thus at every closing of the circuit, the little magnet advances one step and drags forward the insulated wire. The description will be, perhaps, incomprehensible to non-experts, but more people know something about electricity than formerly did, and every telegraph operator will understand how this iron bug reaches out its armature claws and crawls around a gas pipe.

THE OPERATOR A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY.

W. J. JOHNSTON, - - - Publisher.

June 15th, 1879.

A TELEPHONE exchange, similar to those in this country, is soon to be started in Sheffield, England.

A QUARTERLY dividend of three-quarters of one per cent. has been declared by the Atlantic & Pacific Telegraph Company for the three months ending May 31st.

We have received a complimentary invitation to the third annual moonlight excursion of the Washington Telegraphers' Association, on Monday, June 16, which we are sorry to be unable to accept.

THE electric light has taken the place of gas in one of the squares of Lille, France. By means of chemical matter introduced into the arc, a fancy light thrown upon the town clock displays the three national colors.

THE establishment of Post & Co., dealers in telegraphic and electrical supplies, Cincinnati, was damaged by fire to the extent of \$100,000, early on the morning of June 5th. By the fall of one of the interior walls, after the fire had been extinguished, four men were killed, and five wounded.

THE new Eddystone lighthouse is to have a powerful electric light, with an extra machine for foggy weather. The light will be placed about 120 feet above the water, and can be seen eighteen miles. Its intensity will be equal to 180,000 standard candles, and it will revolve every minute.

The Direct Cable Company has issued a notice to owners and masters of shipping vessels, in which it requests captains to give the cable a wide berth, but should any vessel come in contact with the cable and lose her anchor or tackle, the company agrees to reimburse the loss, if the vessel will use every endeavor to save the cable from damage.

An article from the New York *Witness* on the subject of consumption among telegraphers, will be found in this issue. The writer thinks that a different form of desk and seat for the use of operators should be adopted, and something done toward preventing the inclining to the left while receiving. The suggestions are timely, and we should be glad to see some steps taken in the direction of a reform in desks and seats by the companies. In the meantime, however, operators might themselves do much to counteract the liability to consumption by judicious exercise in the open air, if possible, or indoors, if nothing better can be had. Light dumb-bells, Indian clubs, and the Goodyear exercising tubes or health lift are all good.

Miss Thayer's Novel—"Wired Love."

The fact that "Wired Love" is the first telegraphic novel ever published, as well as the first telegraphic book of any kind written by a lady, is sufficient to commend it to the courteous attention of the fraternity. But the further fact that it is an unusually excellent book, bright, sprightly, and amusing, will insure for Miss Thayer the lasting regard of every true disciple of Professor Morse.

The story—of course a love story—is one long series of crosses, cross-purposes, and disappointments, demonstrating what we so often find in every-day life, that the lover is generally pursuing one who is in pursuit of another, and running from one who desires to meet him. The plot is admirably conceived and ably executed; many of the situations are highly dramatic, and the interest is so well sustained that few who commence the book will be able to let it out of their hands until the last chapter is reached.

The heroine, who bears the poetic name of Miss Nathalia Rogers, is manager and operator at a branch office in some indefinite city, and the hero, Mr. Clem Stanwood, is the operator at an unimportant way office, sixty or seventy miles distant. The first message they exchange leads to a well-defined quarrel, which is soon afterward made up, and frequent and lengthy conversations—not to say a decided flirtation—over the wire, are the result.

So much does "N" after a while come to enjoy her little chats with "C," that she gets to the office earlier than necessary, and remains later, that they may be able to talk without interruption by the other operators. One morning "C" tells her that he is going down to substitute at "Ba" for the day, and will not be able to speak to her again until the following morning. "C's" absence from the wire makes her feel very lonesome throughout the day, and she begins to realize how necessary he has become to her telegraphic life. She thinks she would like to see him, and wonders if he is all that her fancy paints him.

Miss Thayer's description of the collapse of Nattie's romance is so good that we quote very liberally from it here. Not a few of us have at some time in our lives indulged in little flirtations of this kind over the wires, picturing to ourselves in very rosy hues the grace, beauty, and accomplishments of the distant object of our affections, only to find the whole fabric crumble into ashes at the first sight of them. To such the following pen picture will prove exceedingly realistic:

About an hour before the time for closing the office, as she was counting over her cash, and thinking how glad she was that "C" would be back to-morrow, Nattie became conscious of some one waiting her attention outside, and went forward, scarcely looking at him, expecting, of course, a message. But instead, the individual, who filled the air with a suffocating odor of musk, asked:

"You are the regular operator here, I suppose?"

With a start Nattie looked up, expecting a complaint, an occurrence often prefaced by some like question, and scrutinizing him more particularly, saw a short, rather stout young man, possessing an air of cheap assurance, hair that insisted on being red, notwithstanding the bear's grease that covered it, teeth all at variance with each other, and seeming to rejoice obtrusively in the fact, and light blue eyes of a most insinuating expression, trimmed around with red.

"Yes," Nattie replied, as she took this survey. "I am."

"You don't know me, I suppose?" was the next question.

"No," Nattie replied, with a glance at the large mock diamond pin, and immense imitation amethyst ring he wore; "I certainly do not."

"I think you are mistaken about that," he rejoined, smiling at her in a most unpleasantly familiar manner.

Surprised and offended, Nattie drew back haughtily. "I think, rather, you are mistaken," she said, stiffly. "May I inquire your business?"

With an air of easy confidence and familiar remonstrance, he replied:

"Come, now, don't freeze a fellow; why, I came to see you. That's my business and no other!"

"He is drunk," thought Nattie, indignantly, but before she could reply he added:

"I am an operator, you see."

"Oh!" said Nattie, comprehensively, but not at all delightedly, for, operator or no operator, and notwithstanding the sort of freemasonry between those of the craft, she preferred his room to his company. But, constraining herself she added, as civilly as possible: "Did you wish to send a message, or speak to any one on the wire?"

"No, thank you," he answered; then, with an insinuating smile:

"Can't you guess who I am?"

"I really can't," Nattie replied, coldly and indifferently; thinking, "some of the operators down town, I suppose, and a delightful set they are if he is a specimen! So impertinent of him!"

"Can't you?" laughing and displaying his obtrusive teeth to their utmost advantage. "Now just think of some one you have been buzzing lately, and then guess, won't you, N.?"

Without the least suspicion, Nattie shook her head impatiently, feeling very much disgusted, and longing for some interruption to occur. But his next words were startling. Leaning forward very confidentially, he asked with a smile of consciousness:

"Do you see that twinkle, N.?"

"What?" ejaculated Nattie—so forcibly that a passing countryman stopped with a peanut half cracked to stare—and clutching at an umbrella hanging by her side for support, she turned a horror-stricken face to the questioner, who, looking as if he expected her to be enraptured, added:

"You know a fellow that signs 'C,' don't you?"

The bump of self-conceit must have largely over-balanced the perceptive faculties of this obnoxious young man, if he could possibly mistake the expression on Nattie's face for rapture, as frantically grasping the umbrella, she gasped:

"No—no—it can't be—you are not—not—"

"Not C? Ain't I, though!" laughed the proprietor of the ring, pin, bear's-grease, &c. cetera.

"But," said poor Nattie, clinging desperately to hope and the umbrella, "C said this morning he was going to B a—and—"

"That was a trick to take you by surprise," he interrupted, with great enjoyment of his own words. "I knew I was coming here all the time, but I wanted to give you a nice little surprise. Think I have, eh?" and he laughed again, and winked with almost vulgar assurance.

Nattie let go of hope and the umbrella, and collapsed with her romance into a chair. Involuntarily she stole a glance at her visitor and shuddered. Could she reconcile "C," her visionary, interesting, witty and gentlemanly "C" of the wire, with this musk-scented being of greasy red hair, cheap jewelry and vulgar manners? Impossible!

"It is the nightmare! it cannot be!" she thought, with the despairing refuge in dreams we often take when suddenly overwhelmed with terrible realities.

As she made no reply to his last observation, her visitor, glancing at her as if slightly puzzled by her behavior, went on—

"I did not think you would be so bashful, after all our talks. I am not,"—a fact hardly necessary to mention. "We ought to be pretty good friends by this time. Say, do I look as you expected I would?" and as to give her a better view, he pushed his hat back on his head, a kindness wholly unappreciated, as Nattie had seen more than sufficient of him already.

"Not—not exactly!" she stammered, in a sort of dazed way.

"I believe you thought I was one of those slim fellows whose bones rattle when they walk, didn't you? I am no such a fellow, you see. But you ain't a bit as I imagined. May I be a plug for ever if you are!"

Nattie was too wretched, too unable even yet to realize that her "C" and this odious creature were one and the same, to ask, as he evidently expected natural curiosity would induce her to do, in what way she so differed from the person of his imagination.

"You go beyond all my calculations," he continued, flatteringly, after waiting in vain for a question from her; "Only you are more bashful than I supposed you would be, after the dots and dashes we have slung. But then it's easier to buzz on the wire than it is to talk, isn't it? For all a fellow has to do is to take up a book or a paper, pick things out to say, and go it without exercising his own brains!"

At these words that explained the previous incomprehensible difference between the distant "C" and present person, the realization of the companionship, the romance, the friendship gone to wreck on this reef of musk and bear's-grease, came over Nattie with a rush, and for a moment so affected her that she could hardly restrain her tears. And yet, after all, was not "C," her "C," the "C" whom she knew by his conversation only—"picked out of books!"—an unreal, intangible being, and not this so different person who claimed his identity?

"I think we astonished some of them on the wire with all the stuff we sent over it!" went on with his monologue the knight of the collapsed romance, who, not being troubled with fine sensibilities, had no idea of the feelings under which she was laboring.

"Yes—I—doubtless!" stammered Nattie, and turned very red, as, suddenly remembering the tenor of what he so elegantly termed "stuff," the appalling thought, what if he should say "my dear!" presented itself in all its horrors, and the idea punished her for that girlish imprudence in allowing the familiarity from afar. Then, in order to give a hint of her intentions, she added, bracing herself up to mention what was so difficult to speak of to this vampire who mocked her with her vanished "C."

"Now that the—mystery is solved, and I—and we have met, I don't think there will be much amusement in talking over the wire."

"I suppose no one really means what they say on the wire. I am sure I do not!"

"But we mean what we say now," he replied, with an insinuating smile. "Next time I come we will be more sociable. But we have had a nice talk, ain't we?"

For a moment the repulsive person before her overcame the remembrance of the lost "C," and Nattie replied, sarcastically,

"I trust the talk has not been too much of an exercise for your brain!"

He looked at her doubtfully, and then laughed. "You are a queer sort of a girl, ain't you? I wish though, I could stay and buzz you longer, but I have only time to get my train, so good-by."

"Good-by," said Nattie, betraying all her relief at his departure in the sudden animation of her voice, something so different from her preceding manner that he could not but notice it, and turning looked at her, as if a suspicion of its true cause penetrated his mind at last, frowned, and then with that former look she did not understand crossing his face, nodded and ran for the depot, coming into violent collision with a fat Dutchman, looking perplexedly for a barber's shop. And thus the red hair, the bear's grease, the sham jewelry, and the obtrusive fighting teeth disappeared forever from Nattie's sight, leaving her with a bewildered look on her face, as if indeed, just awakened from that imagined nightmare.

She looked around the office blankly. Everything was there just as usual, the little key and the sounder, over which had come all "C's" pleasant talk. "C!" That creature! The odor of his detestable musk hovered about her even now, but not yet could she realize that her "C" was no more.

Somewhat to her surprise, and not at all flattering to her vanity, he answered, without a remonstrance:

"No! I don't know as there will!"

"Perhaps he doesn't like my looks any better than I do his!" was Nattie's natural and indignant thought at this quiet reception of her hint. And if anything had been necessary—which it certainly was not—to her utter repudiation of him, this would have sufficed for the purpose.

There are also several interesting non-telegraphic characters in the book. Nattie's landlady, for instance, is a female of uncertain age, who believes, with Socrates, that man and woman were originally one being, and is vaguely searching for her other self. This, however, does not prevent her from trying to make herself familiar with the private affairs of all her acquaintances. Quimby is a blunderer, who is always getting into some scrape, but who, no matter what disasters may befall him, is uniformly good natured, and always affirms that he is "used to it, you know." Altogether, the book will be highly relished by telegraphers.

THE success thus far of the Health Food Company must be very gratifying not only to its proprietors, but to all who desire to see a healthier, happier and stronger race of men and women. The number of persons using the foods prepared by the company is daily increasing, and we should judge that no one who has once tried them will ever voluntarily give them up. One of the company's preparations is called "cereal coffee," and if every man and woman in America could be induced to substitute it for the fearfully and wonderfully adulterate of stuff sold under the names of tea and coffee, doctors' bills, nervous headache, and debility would not be so prevalent in the land. This cereal coffee is not even so expensive as the ordinary coffee, and will be found equally as palatable—while it has the advantage of leaving no rankling wound behind. It consists of the gluten portion of wheat and barley, burned and ground, and is a nourishing beverage, free from all stimulating or narcotic properties, and very grateful to the stomach. We would advise all who can do so to try it. The price is thirty cents per box containing one pound. In addition to this, the company has at least a score of other preparations, information as to which will be found in the circular to be obtained free, on application by postal card or letter. The foods cannot be sent by mail; but can be by express, or may be ordered through any grocer or druggist. Send for a circular.

THE general managers and superintendents of the various American District Telegraph Companies throughout the United States will hold their annual convention in Chicago on Monday, July 7th. The subjects to be discussed are: How to promote the best interests of the several companies; to analyze any new ideas that may be advanced; general discussion on electrical matters, and an interchange of opinions. It is announced that arrangements are in progress looking to the running of a special car over the Baltimore & Ohio Railroad for the sole accommodation of the delegates. Those desiring further information can obtain it from W. C. Stewart, corresponding secretary, southwest corner Seventh and Chestnut Streets, Philadelphia, Pa., or of the members of the committee: Henry W. Pope, New York; C. H. Sewall, Albany; C. F. McCulloh, Baltimore; C. E. Stockley, Cleveland; W. W. Rider, New York.

THERE was a rumor current that the Continental line had been sold out to the Western Union Company. The only foundation for it was the fact that Drexel, Morgan & Co., of this city, had purchased a controlling interest in the Continental Company. This, however, it is claimed, will not in any manner change the policy of the company as an independent line. The business proceeds as usual, and it is said the erection of additional lines will soon be commenced. The business, we are informed, is already more than paying running expenses, and it is thought that when Boston, Baltimore, and Washington have been brought into circuit the prospects of doing a paying business will be enhanced. Drexel, Morgan & Co. have heretofore leased two wires to Philadelphia from the Western Union Co. They have notified the company that they will no longer require them.

IT will be remembered that some months ago the electric lights on the cable steamer Faraday prevented a serious and undoubtedly fatal disaster on the Atlantic. The London Board of Trade, however, says that the Faraday committed an illegal act in displaying an electric light at sea. The objection to the employment of the new illuminant is that it may give rise to serious mistakes, the light carried by a ship being taken for that of a lighthouse. The Board of Trade has issued regulations prohibiting the use of the electric light for ships' signals. This seems a pity, as but for these restrictions it is said that all the ocean steamers would use the light for signalling purposes.

THE new Central Union Telegraph Company has contracted for building its wires from New York to Boston, the work to be completed in sixty days. The arrangements provided for offices in New Haven, Hartford, Springfield, Worcester and other places, including Providence, R. I. The wires will be laid via Hartford, New Haven and Springfield, and a branch line will be built from Boston to Providence for the present. It is understood that the company is backed by Jay Gould, Thomas A. Scott and other railroad magnates, and that Jay Gould is in the West at present in the interests of the company. The new organization is supposed to be a powerful combination.

THE result of the recent Derby race only occupied forty seconds in transmission over the Direct cable, and the message was delivered at the office of the National Associated Press in this city two minutes after it was filed in London. This is very good time, though the Direct cable itself has done better. Two years ago the result of the same race was transmitted from the company's office in London to the New York office in five seconds, and the message delivered at the office of the National Associated Press in New York in forty-five seconds from the time it was filed in London.

AN advertisement of Mr. J. H. Johnston, jeweler, will be found in this issue. We can unhesitatingly recommend Mr. Johnston to the readers of THE OPERATOR as a gentleman in every way worthy of the fullest confidence. His establishment is an extensive one, and in it will be found every description of jewelry, goods of the finest quality, and at remarkably low prices. If you want anything in his line, it will pay you to write Mr. Johnston.

Death at the Telegraphers' Desk.

Some very suggestive figures with relation to the influence of telegraphic work upon health may be gleaned from the reports of the Telegraphers' Mutual Benefit Association. These reports cover a period of eleven years from and including the year 1868. It ought to be stated, to give value to the statistics, that more or less care has been taken by this organization, as by most insurance companies, to subject all applicants for membership to a strict examination, medical and otherwise, before granting them admission. In other words, the risks are selected. Since the Society was instituted it appears that the average annual membership has been about 1,030, and the average annual death-rate about 12; making one death a year for every 85.83 members, or 1.16 per cent. The actual number of deaths during eleven years was 133; but of these deaths 69 are ascribed to pulmonary disease—that is, more than one-half or 51.9 per cent. of the total mortality was caused by what may be in popular language called consumption. Even last year, when the death-roll was unexpectedly swelled by three sudden and three accidental deaths and eight deaths from yellow fever to the exceptional total of 28, pulmonary disorder produced 10 of the whole number of deaths, or 35.7 per cent. In some years the mortality from consumption, among telegraphers, is simply appalling. Take 1877 for example: 14 out of the 16 deaths, or 87.5 per cent., were due to this disease.

A comparison of these, with similar figures concerning the death-rate of other occupations, which might be calculated from our census returns and vital statistics, would be misleading and fallacious, because, among other sources of error, people here change from one pursuit to another with a frequency for which no accurate allowance can be made. A like use of data supplied by Great Britain and other European countries where most people continue in the same employment all their lives, would be nearly equally worthless, because of climatic differences. Briefly and generally, the mortality from consumption in Europe usually ranges between 0.1 to 0.16 of the deaths from all causes. In the city of New York last year, which may not unfairly be assumed as a period of normal mortality, the percentage of deaths from phthisis on the total number of deaths was 16.54. These statistics show at a glance the great activity of consumption as an agent of death at the desk of the telegrapher. Why should it be there so especially destructive? Mainly for this reason, we think, and for the explanation we are indebted to the careful observation of one who has been engaged in telegraphy himself: When a telegraph operator, seated at his low desk, is receiving a message, he naturally leans over and twists his head to the left to catch every click of the instrument; bending his body at the same time to enable him to write the message, and maintaining the intensity and duration of his labor, irrespective of his own physical condition and altogether according to the requirements of the man who is transmitting the dispatch. The posture assumed for convenience in "receiving" soon becomes habitual, and is maintained even in "sending." The devitalizing influence of this constrained position is obvious, and the result is consumption in one form or other.

If, then, this contracted condition of the chest of the operator when at work is the cause of his liability to consumption, the remedy is clear. Let the desk be high and provided with a removable seat with a sloped back, but no arms, so that the operator may sit or stand at pleasure. The top of the desk should be moderately sloped. Lastly, some sort of ear trumpet might be so arranged as to convey the sound from the instrument to the ear of the operator, and thus compel him to assume the upright position which permits full play of the lungs. Difficult as the treatment of phthisis pulmonalis is after it has once seized its victim, it is, nevertheless, a remarkable fact that the mortality produced by this great destroyer of adult life is more uniformly decreased than the whole death-rate itself through the timely adoption of sanitary improvements. —N. Y. Witness.

Columbus, Ohio, Notes.

Telegraph news in this vicinity are like hens' teeth. We notice a steady increase of business all along the line. The American Union Company last week took out incorporation papers for this State, and there is every prospect of a lively opposition before many moons. How it will effect the condition of the boys is one of the mysteries. Jay Gould, no doubt, will make things interesting for a time; but whether he has the staying qualities we know not. Many think it a speculative move, while others claim that he will stick and make a hard struggle to make it a permanent and paying corporation. The A. and P. appears to be holding its own, and still employs three men at this point. While the A. and P. may be justly termed a creature of the W. U., yet it furnishes employment for a great many men. Since our last communication we have had several calls from "old timers," among others, Mr. Kearney, late of Virginia City and New York; he was on his way to Zanesville, O., where he has accepted a situation with the C. and M. B. R. R., as Superintendent of telegraph and Private Secretary to Superintendent Waite. He speaks very disparagingly of the Pacific Coast, and says that everything is so expensive that it takes all the Virginia City operators to pay their board and necessary expenses. Henry Crippen, manager, Athens, O., called on us and by his gentlemanly bearing gained many friends; he says he enjoys reading THE OPERATOR and intends to do what he can for it, in the way of subscribers. Sam Hoyt, chief operator at Crestline, Ohio, and probably the oldest landmark in the service, looked in on us the other day; the sight of his good natured old face made our hearts glad. It does one good to hear "Sam" talk of twenty years ago, when such a Superintendent and he were young men together, and of the old boys who have passed from our sight forever. We have just passed through a lively State Convention, which lasted one day; we had no extra men, except Patsy Ayers, who came over from Dayton, where he has been sojourning with his folks. He looks well, and retains his grip. From 8 p. m. to 1:30 a. m., we handled 75,000 words of special, and a very heavy local business; this is the heaviest work for the number of men ever done in this State. Superintendent Williams looked on with an approving smile. Dick Morris has returned from his Western trip, where he has been visiting friends for the past three months. Charles T. Buchanan of the Union depot subbed during his absence. Patsy O'Gara has left us, and is at his home in Lancaster, O., waiting for something to turn up. Mr. Bradley, late agent for THE OPERATOR at Chicago, has been appointed Superintendent Booth's clerk at this point.

We learn (indirectly, however) that Frank Farley is keeping hotel at his home, Knobnoster, Mo. Imagine the landlord when some operator hangs him up for a month's board. This is intended as a pointer to operators walking west. —N. M.

POLAR.

The Student Question.

No one but those engaged in the business has any idea of the demoralized condition that the telegraph operators of this country, both railroad and commercial, are in. This line of business is over-done, and those operators who pride themselves on the number of students they have turned out during their time will, if they have not already, have cause to regret that they ever encouraged even one person to learn the art. Any one who will take the trouble to look into the matter will be surprised at the number of young men—plugs—who are working our most important wires for \$20, \$25, to \$35 a month—barely enough to pay board—while old, experienced operators, who have devoted a life-time to telegraphing, cannot compete with this cheap labor and support a family; hence we find, both in our city and railroad offices, men who should not be trusted with the safe transmission of the public's business, while good, reliable, and tried men go from place to place, asking superintendent after superintendent for position, always receiving the same reply, "no vacancies at present."

To remedy this evil, and protect ourselves and those depending upon us, we must at once make a stand, organize, and take such action as will best adjust this difficulty. It is plain that we are powerless to deal with the plugs now employed, hence we must direct our attention to the advancing enemy—the students. The plan to be adopted is this: that every operator throughout the country will dismiss at once from his office all young men or others learning telegraphy, and bind himself that in future he will encourage no one to learn the business, and will receive no compensation, however great, for the privilege of learning. This is all that is needed to successfully bring telegraphing back to the old standard of years gone by. The action must be prompt and decisive, and in a short time the demand for experienced men will be as great as it is at present for inferior ones. Doubtless there are some who will laugh at this seeming impossibility, but it has been proven that in unity there is strength, and why not employ this in the cause of the operators. Let a paper, or several if necessary, be started for signatures, binding the signer as above.

Not only is an operator working an incalculable injury to himself and family by learning others telegraphing—thereby reducing himself by decreasing his salary and paving the way for his own discharge—but to many others who are dependent upon telegraphing for a living, under greater disadvantages, perhaps, than himself. And the student, also, in a measure, shares in this injury, for, after advancing far enough to be able to take charge of a small office, he often finds that the time and money he has spent is thrown away—as no position, however unimportant, can be had. Operators in our country way offices—who, by the way, are just the ones we are talking to, and where the foundation of this wrong exists—need but go to any city to be convinced of the truth of what I say. There he will meet men who have devoted almost a lifetime to the business who will tell him they can find work nowhere.

Will some operator who has the courage to start this matter come forward! F.
Chicago, May 28, 1879.

Worthy of Example.

An advertisement for young men and women to learn telegraphy having appeared in the Hamilton, Ont., SPECTATOR, Mr. A. B. Smith, of that city, sent the following letter to the editor:—

"My attention has been drawn to an advertisement in yesterday's SPECTATOR of a so-called 'Telegraph Institute' in this city, soliciting ten gentlemen and ladies to learn telegraphy for offices now opening in the Dominion. I trust none of your readers have been misled by this adroitly worded notice. I am aware that to many minds there appears to be a certain amount of fascination in the telegraph business, together with the impression that the business is easily acquired, and that large inducements are offered to enter the profession. Nothing could be more delusive. As a practical telegrapher of many years' experience, I submit the following for the thoughtful consideration of any who may contemplate learning telegraphy:

"1st. The only place in which practical telegraphy can be learned to advantage is in a telegraph office.

"2d. It takes from three to six years, according to ability, to become qualified to hold responsible positions.

"3d. The average salary paid to operators does not exceed forty dollars per month, with but little incentive for long and faithful service.

"4th. That there are no new offices now opening in the Dominion, nor is it probable that there will be any for some time to come.

"5th. That there is no demand whatever for operators, the supply being much in excess. For every vacancy there are numerous applications.

"As a rule the proprietors of these institutes are utterly incompetent to hold responsible positions in any telegraph office, much less capable of teaching others. Yours truly, A. B. SMITH."

An advertisement explaining the standing of these "Institutes," and the "brilliant" prospects for employment when one has learned telegraphy, was also subsequently published in another Hamilton paper, in which the "Professor's" advertisement had appeared.

He Didn't Gush This Time.

Sometimes an agent of the Associated Press is accused of gushing when he sends a very florid account of a transaction in his neighborhood. When he tells how the lurid flames licked up with their forked tongues So-and-so's barn, the telegraph editor is very apt to strike out the account, and thus concealment (of his items), like a worm in the bud, rather discourages the young man. The Press man in Chicago was considered peculiarly gifted in this way. It will take a long time for America to forget how he made Chicago bristle with bayonets and how grape and canister mowed down the terrified rioters a couple of years ago. But it must be admitted that this wild lightning jerker has calmed down considerably. This week he sends the following dispatch:

"The Oriental Powder Company's magazine, near Brighton, Ills., containing 50,000 kegs of powder, was struck by lightning Sunday afternoon and entirely consumed."

Now, this is a calm and dignified way of stating a lightning and gunpowder explosion. The powder was "entirely consumed." We presume it slowly burned while the machines poured pailfuls of water on the blazing powder. It is surprising that the stuff did not explode.—*Detroit Free Press.*

Echoes from 197 and City Items.

It would be much better if there was one good strong opposition company at work than to have half a dozen that are going to revolutionize the business and accomplish wonders—on paper.

A new company called the Messengers' Telegraph Company has been incorporated in this city. The capital stock is \$50,000, and the incorporators are J. G. Case, G. R. Williamson, and James G. Smith.

Those who know General Eckert can readily imagine with what an easy grace he receives points of instruction and guidance in his management from his able assistant and very talented young vice-president.

It is a pleasure, in these degenerate days, to record the fact that the courteous gentleman who nightly fills the managerial chair of 197 Broadway, retains a degree of popularity among his subordinates that might well be envied by any manager in this country.

The Brooks Underground Telegraph Company has been incorporated in this city for the purpose of laying underground wires and cables by the Brooks system. The first line will be built in Philadelphia at once. The capital stock of the company is \$200,000, which has all been subscribed for by David Brooks, General Stager and Dr. Green.

Telegraphers in this city and vicinity, desiring carpets, matting, oil-cloths, rugs, etc., should read the advertisement in this issue of Andrew Lester & Co. Messrs. Lester & Co. retail goods at wholesale prices, and our readers will be surprised at the cheapness at which they can purchase the very best grades of goods at Nos. 11 and 13 West Houston street.

Some of the ladies who spend a great part of their time in the gentlemen's department, and return for a few days to their own, become very amusing (though unconsciously so) to their less experienced sisters, by the air of patronizing superiority they assume. The sleeves of those ladies' dresses will be utterly ruined if they don't quickly cease laughing therein.

There seems to be a strong tendency among the gentlemen to become Benedicts. This is a very commendable course for them to take, as a good wife is an inestimable treasure beyond price. A bit of advice in this respect, of some value, will be for them to select one who has had a relation to guide, and direct her in a choice. The point of this may not be readily apparent, but a little thought will make it so.

Coney Island is well supplied in the way of telegraphic facilities, and business is uncommonly lively there. The man who goes to any of the hotel offices, of which there are several, expecting to have a good time, is not generally disappointed. They only remain open from about 6 A. M. till about 13 midnight, with, maybe, a call occasionally at 2 or 3 A. M. to vary the monotony, and so they have a pretty good (long) time of it during the season.

SYMPATHETIC.

With a wrist as tired as could be,
And a head that did nothing but ache,
A lady sat at the telegraph key,
Wishing the wires would break.

Click, click, click,

Her fingers do wearily talk.

And she moans "Oh, dear! I am awful homesick,
I wish I was back on Swatara creek,
Instead of down here in New York."

▲ The summer offices are now well under way, and long Branch will be managed as in former years by Mr. J. Mitchell, from 407 Broadway office. P. J. Casey, Esq., of 13 West Twenty-third street, will assist Messrs. Presbury and Hildreth at the West End Hotel as usual. Who his associate will be has not yet been determined upon. Mr. Casey is somewhat literary in his tastes, and contributes frequently spicy articles to the local journal published here.

When a man has spent the greater part of his life in self-denials and privations, in order to acquire wealth and power, it is hardly to be expected that he will be very generous in his remuneration to those who may be in his service. This is one of the failings of human nature. However, we might naturally expect that a young man just entering life, suddenly becoming possessed of great wealth and power, would be full of noble impulses, and an earnest desire to contribute to the happiness of his fellow beings, but such unfortunately does not always seem to be the case.

The public have been awakened to the fact that when they want their city messages sent with promptness, directness, correctness, and expertness, they should go to the superintendent's office, at 819 Sixth avenue (and it may be added in parentheses that numbers may be seen wending their way thitherward from all parts of the city). It is even reported that one afternoon a man took the Elevated road from Broad street up there, left a dispatch to be sent back to Broad street, and delivered promptly—in the morning, which it was. N. B.—Strictly speaking, the man didn't take the road from Broad street—it is there still; he merely road up on it.

The match between the New York and Boston W. U. base-ball clubs for the telegraphic base-ball championship of the United States, came off as announced on Saturday, June 7th, and resulted in a victory for the Boston club. The party of Boston operators, who visited New York on the occasion, desire to express, through THE OPERATOR, their sincere appreciation of the many courtesies extended to them by the New York telegraphers, as well as their gratification that the game was so well contested and interesting to the large delegation of telegraphers who witnessed it.

Dashes Here and There.

A mule was killed out West the other day by a stroke of lightning. He kicked against it, but the lightning was too quick for him.

The cable across Hampton Roads, Va., which was broken, has been repaired. 1,200 feet of cable had to be shipped from New York.

When received for transmission the message read: "Stop Plymouthland see Emorgene Esty to Groton." The copy delivered reads: "Stop Plymouth & see E. M. or Gene J. & T. Y. to Groton." The receiver said he would like it translated.

At the commencement of the year 1878 the colony of Tasmania had in operation 850 miles of telegraph line, with 1,000 miles of wire and 46 receiving stations. The cable connecting it to Australia carried over 12,000 messages during 1877.

This, from the Norristown *Herald*, may be irony, or it may not: "Scientists say the sun will cease to shine seventeen millions of years hence, but by that time Edison's electric light will be in complete working order, and we shall not mourn the loss of old Sol."

"I began the use of Health Foods at a time when I was very sick with acute dyspepsia, and what several physicians called consumption. They gave me little hope of recovery. Under Providence I think I owe my life to these delicious Foods. I am now quite well and strong. Thousands now sick may be made well by obtaining the free pamphlet of the Health Food Co., 74 Fourth avenue, New York, and following their advice."—SARAH W. SCOTT, Middletown, N. Y.

A traveling show out west announces itself as "the mightiest, most overwhelming, opposition-annihilating, combined, gorgeous and rival-crushing cluster of superb and bewilderingly perfect shows the world ever looked upon." It has the electric light, and that light is "a glorious illuminator" and sheds "a halo of unspeakable glory."

We notice that some enterprising saloon keepers are illuminating the exterior of their premises with the electric light. A form of Bunsen's Battery is said to feed the lamp; but the real motive power, to the best of our observation, is behind the bar, where the engines are kept constantly going, by reason of the uncontrollable thirst which seizes the spectators after a brief period of open-mouthed wonderment outside.—*Electrician.*

It is one of the peculiarities (and an unfortunate one, too), of the business, that the boys learn it so rapidly that they become men in ability while yet in their teens; and, adversely, when they reach the age of full manhood, they will find that their youth has been wasted, and that they are now treated as boys in point of compensation. This is a view of the Plug question that is of great interest to the boys themselves, if they could only be brought to see it.

ALTHOUGH little has been said about the phonograph lately, numbers of machines are still being made, principally for exhibition purposes. These are of iron, neatly finished, and sell for \$100 each. A few larger and very beautiful machines of brass, filed throughout by hand, have also been made, the price of which is \$250 each. They are very handsome, and are intended more for parlor or drawing-room use. Dom Pedro ordered one of these latter, as did also the Emperor William, of Germany. We saw the draft from the latter to the Phonograph Company in payment of the machine ordered.

A South Norwalk (Conn.) physician a few days ago was overhauling an electrical machine, and, after putting it in order, turned the crank to test it. His little daughter wanted to help, so he told her to turn and he would hold the handles. The child did her part well, and the current of electricity was so strong that the doctor's hands shook as though he had an attack of the ague. The next day the little girl asked her father to let her "play the hand organ again." "Hand organ?" said the doctor, in an inquiring tone of voice, "I didn't know that you ever played a hand organ." "Oh, yes, I did, yesterday, you know, when I played and you was the monkey."

A London engineer, Mr. C. W. Cooke, giving evidence before the Select Committee of the House of Lords on electric lighting, said he believed the electric light would be of the greatest possible advantage to the shipping, or warfare—in affording protection against night surprises and torpedo attacks. It would enable a ship to be seen three or four miles off, and would also be especially useful for detecting surf or breakers. The amount of heat produced by the electric light was inappreciable, and would hardly increase the warmth of the smallest room. The amount of intensity of the light which might be obtained was simply a matter of condensation; and Mr. Cooke had known a light so intense that it was possible to read the direction of a letter four miles off by its aid.

Elephants cause frequent interruption to telegraphic communication in Sumatra. A recently issued official report says that on one occasion the Mnara-Dura-Lahat line was completely destroyed for a length of three miles, and the wires and insulators were hidden away in a cane thicket. All the repairs executed during the day were regularly destroyed by night, and this for three nights running. Besides the systematic hostility of the elephants, the numerous tigers, bears and white buffaloes make it both difficult and dangerous to keep an efficient watch on the telegraph lines, where they pass through thick jungle. Both the greater apes and the little monkeys seem to regard the lines as set up for the purpose of affording them the opportunity of practising special gymnastic exercises, swinging from the wires, breaking them, and carrying off the insulators.

A remarkable case of lynching occurred at Cheyenne, Wyoming, on the 12th ult. A man named Dug. Reed, obnoxious particularly to the citizens, was taken out of jail. Then, with unusual courtesy, the lynchers allowed Reed to select the method of death most agreeable to him; and when he stated that he would prefer to be hanged, they went still further and allowed him to be his own executioner. He took the rope in his hand, climbed a telegraph

pole, fastened one end around the top, and formed a noose at the other end. Then he made his last dying speech, which was short, being no more than "Good-bye, boys," and, jumping off, was launched into eternity. Some coroner's juries might find this to be a case of suicide; but, to some extent, the crowd at the foot of the pole must be considered as aiding and abetting.

"Wired Love," by Ella Cheever Thayer, achieves a slight variation of the "old, old story" by sending the tale over the telegraph wires. The heroine is an operator, and among her "co-operators" there is one at a distant office who draws her into an electric conversation, and eventually into a decided flirtation. The invisible lover takes a fancy one day to make himself visible to her, and the awful discrepancy which she finds between the real and the ideal furnishes the misery for the most comical part of the little drama. Her punishment is deserved, and is such as overtakes most romantic girls who trust themselves to anonymous correspondence. Beauty, however, finally gets rid of her Beast; and, wiser by experience, she "wires" next time a more companionable lover. The book claims a place with the crowd of summer novels, and may serve to while away an idle morn'g hour.—*Home Journal*.

The first electric light ever introduced in a mining claim was placed on the Deer Creek placer claim of the Excelsior Water Company at Smartsville, on the 10th of April last. A 12,000 candle power Brush machine was put in operation, and three lights of 3,000 candle power each were placed in prominent positions upon the claim. Although the night was very dark the lights shed a brilliant light around and enabled the miners to work as readily as during the day. Until this experiment the mines had to shut down during the night, but now the company expects to work both night and day. Nevada and Yuba counties have many hydraulic mining companies, and several of them have announced their desire to use the new light if the Excelsior Company is thoroughly satisfied with their machine. As Mr. Law has received several telegrams from the company which state that it is working well, there can be no doubt that it will be adopted. The three lights cost the company about 10 cents per hour, and with interest, wear and tear, etc., included, the claim is lighted for 16 cents per hour. The company's daily clean-up is from \$500 to \$1,000, and by running nights also the yield of the mine can be doubled.—*Nevada Transcript*.

American cities are fast coming to be, in a sense, like the rooms of a big hotel, having a call-bell in every room to reach the office, and a way in the office to reach every room. The telephone puts people in such easy communication that it is easier to talk to a neighbor through it than to go to him; as men having offices in the same building find it more convenient to talk to each other from their desks, by way of the telephone office, than to cross a hall. And this is only the beginning of the means by which the homes in a city are to be interlocked. The *Chicago Times*, eighteen months ago, announced with a great flourish that it had connected its office by pneumatic tubes with the Western Union office at an expense of \$20,000, so as to save ten minutes' time in receiving its messages. Now the streets are torn up around the City Hall Park in New York to connect every newspaper there in the same way. The packages travel about a mile in three minutes and announce their arrival by an automatic arrangement. If the plan works well for this special purpose, it will not be long before a pneumatic express tube for all the lighter articles of daily marketing and convenience will come to be as frequent in well appointed houses as the telephone.—*Springfield Re-publican*.

La Nature says that the General Omnibus Company of Paris has for some time past made use of electricity for breaking the horses. It appears that after undergoing the electrical discipline, vicious horses, addicted to biting, kicking, etc., speedily submit and become inoffensive, so that they may be harnessed and groomed with safety. To obtain this result a weak electric current was passed through the animal's mouth whenever it showed restiveness. The current was generated by a small Clarke magneto-electric machine, one of the wires from which communicated with the bit. This idea has been suggested at the Paris Exhibition, where, in the Swedish section, was exhibited a small box containing a battery communicating with a bit by means of the lines. When the horse to which this apparatus was adapted showed any symptom of viciousness, the conductor was simply to press a small button, when the animal would immediately become subdued. The use of electricity is said to

be much less liable to the charge of cruelty than are the means ordinarily adopted for the breaking of horses.

Professor Slabba has devised and made public a process of nickel plating in the wet way, without the use of the battery which is said to give good results, and which is not patented. The process is described as follows: To a dilute solution of chloride of zinc (5 to 10 per cent.) enough nickel sulphate is to be added to impart a decidedly green color to it, and the solution is then to be heated to boiling in a porcelain vessel. The clouding of the liquid from the separation of the basic zinc salt need not be heeded, as it will not interfere with the effectiveness of the bath. The articles to be nickel coated—first carefully cleaned of oxide or grease—are to be suspended in the solution from thirty to sixty minutes, the bath being kept at a boiling temperature. When the articles are observed to be uniformly coated, they may be removed, washed in water in which a little chalk is suspended, dried, and finally polished with chalk or other suitable material. By the substitution of cobalt salt in places of the nickel, objects may be similarly coated with cobalt.

The Lightning-Rod.

The St. Louis Academy of science has been throwing light upon the lightning-rod, concerning which, said Professor Nipher, there are many popular delusions. One is, that if one of two rods containing an equal amount of metal be hollowed out, thus giving it greater expanse, its conductive power would be greater than that of the other. The truth is that they would be equally as good conductors. Another erroneous impression which the Professor proceeded to dispel was, that a current of electricity runs along the surface of a wire. In reality it extends through the entire wire when the circuit is made. Mr. Nipher said, but when the circuit is closed, it accumulated upon the surface of the conductor. A strong point made was that lightning-rods do not attract lightning. They are splendid conductors, much better than wood or air, and the lightning strikes them because they offer the least resistance to the passage of the electric current.

PERSONALS.

Mr. R. H. Rochester, Treasurer of the Western Union Company, was married Wednesday, June 4th, to Miss Louise A. Bamman, of this city.

Mr. W. B. Somerville has resigned the general agency of the National Press Association in this city to accept a position with the Western Union.

We have received the wedding cards of Mr. A. E. Chantler, Train Dispatcher's office, St. Paul, Minn., and Miss Kate A. Nichols, and wish them a long and happy wedded life.

The Houston, Texas, force consists of J. M. Stacey, manager; Charley Clough, day chief; George Hurd, night chief; Luke Fisher and Billy Harris, operators; Billy Petty, bookkeeper; Jerry Newton and Chas. Hoffman.

In West Virginia, an operator is not counted one of the boys until he can slash down in an off-handed style, together with the month and date, the name of Greenbrier, White Sulphur Springs, West Virginia, and get it all on the top line of blank No. 1.

Mr. W. F. Coleman, late of Bergen Junction Erie Railway, has accepted a position as ticket-agent and operator at the Neptune House, Rockaway Beach, under F. S. Gannon, Long Island Railroad. Mr. Coleman has had the refusal of several positions since he left Bergen Junction, which goes to prove his worth.

Mr. James Adams, whose death from heart disease we announced last issue, was thirty three years of age. He was first employed by Mr. Edison as a night watchman. Being ingenious, energetic and deserving, he was soon given occupation in the workshop, and finally obtained a pecuniary interest in every invention turned out of the establishment. This interest descends to his wife.

Mr. Robt. Eggleston, of Beachburg, Ont., has been appointed operator at Edmore, on the Stanton branch of the D. L. and N. R. R.: Vice Wm. Lyons removed. Bob is a genial fellow, and deserves his success. Glenn Barnard, for a short time billing clerk at Ionia, is back at his old post at Colwell. Hatch still roams about the country, and is as careless as ever. Business on the road is good, and the pay car running regular. Who could ask more?

Long and faithful service is entitled to a just and proper recognition; but it would seem that length of service alone is about the only qualification that not a few of the present chiefs possess for the positions they hold. This is too much recognition for that kind of talent, and not enough where brains are allied to business capacity. A little more discrimination on this point would be of service.

PASSUMPSIC R. R.—E. H. Howe officiates in the capacity of station agent and operator at North Thetford, while at Bradford you will find "Joe" Warden, an old timer, who formerly used the Bain alphabet. At Newbury you will meet a genial young gentleman by the name of Silsby. In St. Johnsbury "City" office, S. L. Doying and C. N. Haskell answer "Dm"; O. H. Henderson is ticket agent and operator at the depot; W. H. Ford, freight clerk, is sometimes heard signing "U"; A. M. Cutter is nightman at Lyndonville, where are located the general offices of the road; A. D. Paige acts also as circuit manager, and B. C. Berry works nights. At Barton, H. R. Ford is operator and station agent; L. B. Powers is at Newport, except summers which he spends at the Profile House, White Mountains. If you will happen into some office on the line about 9 P. M. you may hear Miss Hubbard, of Stanstead, ask W. R. Junc. if there is "anything for this old gal" and then bid him a sweet "G. N."

NEW ORLEANS NOTES.—Telegraphic matters of interest in the Crescent City have been few and far between this season, and are likely to continue so unless yellow jack comes to spend the summer with us. New Orleans, once so noted for its changes, is losing its prestige, a set of sober and reliable men have succeeded the accomplished but dissolute "birds of passage," who formerly made this their stopping place, and changes are becoming less and less frequent. The spirit of equity which pervades the official atmosphere of this office renders antagonism between the operators and the Company's officials very infrequent. There is a commendable absence of red tape and a general feeling of satisfaction exists. Mr. Swindell, who was let out by reduction of force, has accepted a position with the A. & P. Co., vice Jaynes, resigned. Mr. C. H. Cottrell, with his genial face and fund of anecdote, has left us to accept, we understand, the position of chief operator at New York or Boston with the Union Company. He has our best wishes wherever he goes. He is succeeded by Mr. Miller. Mr. Flint, the old timer, leaves to-morrow for his home near Atlanta, where he will recreate himself for a fortnight (there are five already). Mr. L'hommedieu, former manager of the A. & P. Company, at Cincinnati, was with us for a time, but resigned, leaving April 1st.

MARRIAGES.

WEBSTER—KINGSLEY.—May 17th, at the residence of the bride's father, Kingsley Station, Mich., by the Rev. W. H. Nickerson, O. F. Webster, operator at the Greenville City office, to Miss Luella Kingsley, operator D. L. and N. Railroad station, at same place. The happy couple have the best wishes of their many friends.

DEATHS.

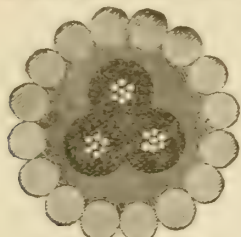
FARR.—At sea, March 23d, 1879, on his passage from Greenock, Scotland, to Rio Janeiro, Brazil, on board ship La Costa, Eugene D. Farr, aged 35 years. Mr. Farr, who was well known to many old timers, learned the business at Saratoga, N. Y., and worked in main office of the American Telegraph Company, at New York. He also worked in many offices on the Hudson River and Erie Railroad lines, and was connected with the Manhattan Quotation Company. He has been following the sea for the past six or eight years.

ROWE.—In this city, May 28, 1879, James Allen Rowe, son of James and Abbie V. Rowe, in his 10th year.

MORDOFF.—At Iowa City, Iowa, May 29th, 1879, of inflammation of the brain, Frank Mordoff, aged 33. The deceased was train despatcher at Bellevue, Iowa, C. & N. W. Railroad, filling that position with credit to himself and honor to his company. He was considered one of the most promising dispatchers in the country, and was fairly started in an honorable and useful career. His early demise is sincerely mourned by his many friends and co-workers. The Iowa City *State Press* speaks tenderly and feelingly of the deceased. B.

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422, 424, 426 E. 25th St., NEW YORK



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The District or Telephonic Exchange System of this Company, by which parties in different places can be connected and converse, is in successful operation in Boston, New Haven, Albany, Chicago, St. Louis, Cincinnati, and many other places.

These exchanges can be advantageously introduced into almost every city and large town where there is a Telegraph Operator.

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PRICES—Complete Outfit, as above, cash with order, \$5.00
Instrument, without Battery..... 4.25
" " by mail..... 4.75
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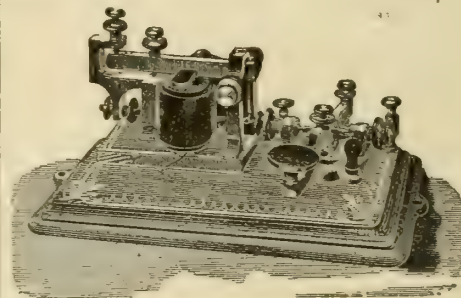
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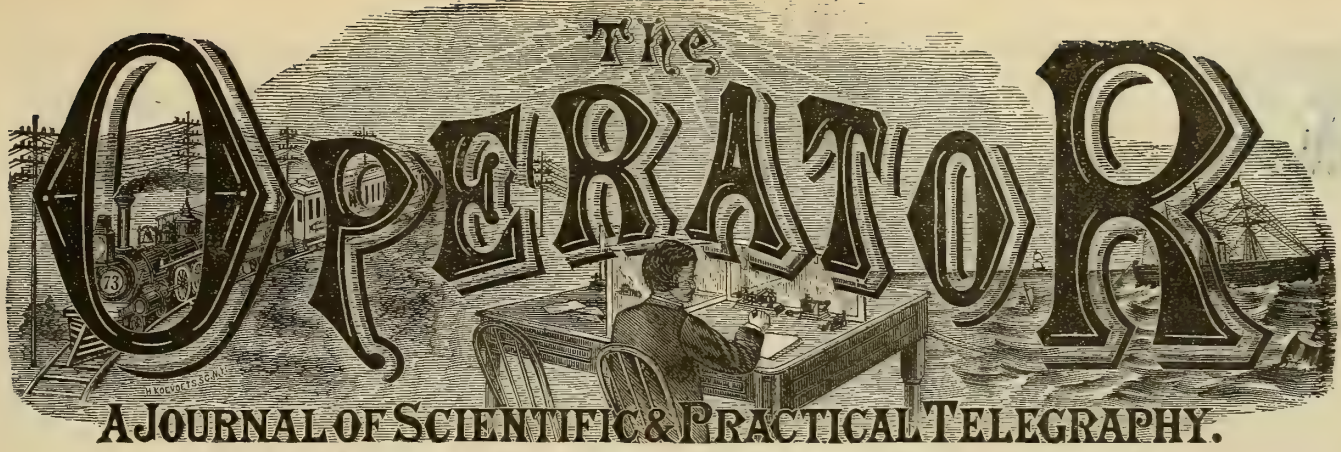
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Vol. X. NEW YORK, JULY 1, 1879. No. 13

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**BATTERIES, WIRES, AND SUPPLIES
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Fire Alarm Telegraph
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Having purchased from Messrs. Gamewell & Co., late proprietors of the "American Fire Alarm and Police Telegraph," all their patents and "good will," this Company is now prepared to contract with cities and towns for the construction of this valuable adjunct to every well-regulated Fire Department. This system of Fire Alarm Telegraph covered by the "Gamewell" patents, is the only perfect, complete, and reliable system of Fire Alarm Telegraph in the world, and the only one which has yet established its claim to perfect reliability. It is now in successful operation in some 100 cities and towns in the United States and Canada.
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And every kind of Electrical Apparatus at lowest possible prices. Best Galvanized and Office Wires. Send for Catalogue.

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Galvanized Telegraph Wire
OF ALL QUALITIES.
Weighing
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The discovery of the insulating compound known as Kerite is the result of more than ten years of uninterrupted experiment and application, as well as twenty years previous experiment and experience in the manufacture of India rubber. About ten years of this time was spent in assisting Mr. Charles Goodrich in the experimental department, while perfecting his improvements in vulcanized India-rubber and its varied applications.

The necessities of the telegraph business requiring an indestructible insulation, stimulated me to the discovery and perfecting of my compound known as Kerite, which combines the great advantage of durability with perfect insulation.

Kerite insulation is proof against the action of the corrosive elements in the earth, air, and water; and, where it has been practically tested, has proved its superiority to all other insulation.

Durable Qualities of Kerite.

It is not inferiorly affected by the extremes of heat and cold experienced in our climate, nor by length of exposure in the atmosphere.

It will endure long-continued heat below 200° Fahrenheit, while for short intervals it may be subjected to 250° to 300°; and it may be safely immersed in boiling water.

The action of water, salt or fresh, not only protects all its qualities, but very much improves its insulation.

It is also unchanged by being placed in the ground. Any corrosive elements in the earth do not act upon it; nor is it injured by the roots of plants, which soon destroy gutta percha.

There are thousands of miles in use throughout the country, by Fire Alarm and other Telegraph Companies of all our principal cities.

It has been used largely in the city of New York, under all conditions and exposures, for the last nine years.

Constant exposure to the sun and atmospheric changes are the severest tests that can be given it in practical use.

EMINENT ELECTRICIANS AND PRACTICAL TELEGRAPHISTS commend and recognize the Kerite insulation as superior to all others.

GEORGE B. PRESCOTT, Esq., Electrician of the Western Union Telegraph Company under date of Sept. 25, 1874, says:—"In September, 1869, we placed some of your Kerite wire, unprotected by any covering whatever, in the tunnel under the river in Chicago, and have since continued its use in that exposed situation with the most gratifying results. A portion of the tunnel is very wet, and water saturated with lime constantly drips upon the wires, while the other portions they are kept alternately wet and dry, which is well known to be one of the severest tests that any insulating material of an organic nature can be subjected to; and yet, after five years' exposure, under the above conditions, the Kerite covering shows no signs of decay or deterioration. An insulating covering of India-rubber or gutta-percha under a like exposure, would have been destroyed in much less time."

February 12, 1877, he writes further:—"This piece of Kerite wire, unprotected by any covering, was in use in the tunnel under the river in Chicago from Sept. 1869 until December, 1876, and shows no signs of decay or deterioration in its insulating qualities."

Prof. MOSES G. FARMER says:—"I have used your Kerite as leading wire more or less for four or five years. It stands abuse, changes of temperature, alternate wetting and drying better than any insulator I have tried."

Messrs. GAGEWELL & Co., proprietors of the American Fire Alarm and Police Telegraph have used the Kerite wire for ten years. They say:—"We have placed it in use in some sixty cities extending from Halifax, Nova Scotia, on the north to New Orleans and San Francisco, on the south and west, embracing every variety of climate, and it has proved itself to be, under all circumstances, the most reliable and indestructible insulator known to us for telegraphic purposes."

Mr. M. A. HADBY says:—"I have used it not only in this country, but also in Egypt, where it was subjected without injury, to the most severe treatment. I also laid the Kerite cable for several months in the Mediterranean Sea, and always found it reliable and unaffected by the ravages of 'teredo.'"

Many other equally favorable and satisfactory commendatory letters are in the possession of the proprietor.

At the Centennial Exhibition at Philadelphia, Srs. WILLIAM THOMSON, the eminent electrician and scientist, awarded to the

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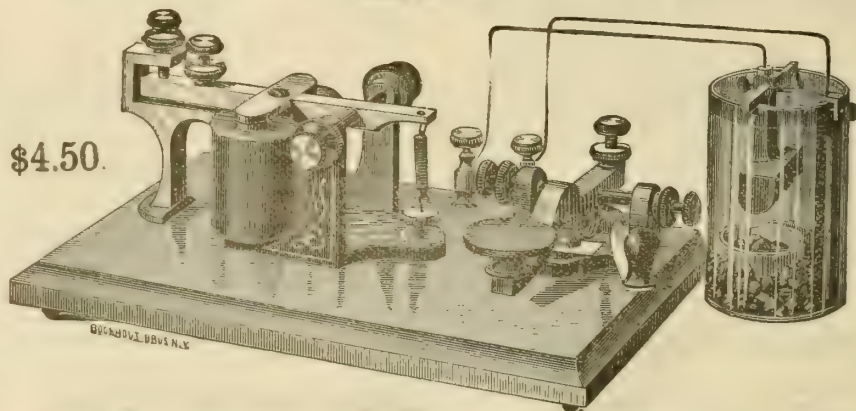
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Patented May 1, 1877.



\$4.50.

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For the above complete and Perfect Sounder and Key Combined, on mahogany base, including Battery, Chemicals, Wire, Book of Instruction, and everything necessary for a **FIRST-CLASS TELEGRAPH OUTFIT** for the Student's use, for practice **AT HOME**, or for operating **ALL SHORT LINES OF TELEGRAPH.**

Instruments without Battery, \$3.50; same, by mail, postpaid, \$4.30. Instruments without Battery, wound with fine wire for lines 1 to 15 miles, \$4.50; same, by mail, postpaid, \$5.00. Cell of Battery, 65 cents. Instruction Book, 30 cents. Galvanized Telegraph Wire, per 100 feet, 30 cents. Remit by Postal Money Order, Draft, or Registered Letter.

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Nos. 5 and 7 Dey Street, New York.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

July 1st, 1879.

Volume X.

Whole No. 129.

The Secrets of the Wire.

If the wires could speak
What tales they'd tell,
Of ways as dark
As the ways of hell.

Of deeds of hate,
And deeds of woe;
And treachery base,
And justice slow;

Of the wily schemes,
And whims and tricks,
And deep intrigues,
Of politics.

Ah! there would be many
High heads brought low,
Who to the outer-world
Are pure as snow,
If the world but knew
But half we know.

But if the wires could speak,
They'd also tell
Of noble deeds
In ward and cell.

Of deeds of love
In days of trial,
And heroic deeds
Of self-denial;

And words of hope—
God's blessed balm—
A gift to man
For fellow-man.

And many could hold
Their heads far higher,
If the world but knew
But just a few
Of the hidden secrets
Of the wire.

Ah me! the world
Will never know
Those hidden tales
Of joy and woe;

Never, until
The judgment day,
Will the wires reveal
What's hid away.

VICTOR VAUGHAN.

Telegraphy; What it Is, What it Has Done, and is Doing.

In part second of his lecture on the above subject—the first part of which, somewhat condensed, we heretofore published—Sir James Anderson said:

Telegraphy is one of the most important subjects which political economists and statesmen—especially the rulers of the British Empire—have to deal with. In the last twelve years telegraphy has changed the commerce of the world to an extent little dreamed of. This change, I venture to say, is only beginning to be faintly appreciated and understood.

The only writer I have yet known who has concentrated his thoughts upon this subject is the city editor of the *Times* in his recent book, "A New Departure in the Domain of Political Economy," and some of my illustrations will be from that work. Five new commercial factors may be considered as established:

1. Telegraphy is bringing the consumer face to face with the producer. 2. The middle men, or commission agents, are going out of the field. 3. The "foreign trade," in the condensed language of Mr. Crump, "is becoming only an extended home trade." 4. "Orders," if sent in writing,

are subject to modification by telegram." 5. Large stocks of anything are no longer necessary. You can order what you require to arrive just when you want it.

Risks and speculations are diminished by telegraphy. The effect, of course, is to cut down profits, but it multiplies transactions enormously, and it prevents wide fluctuations. In former days—say fifteen years ago—merchants in grain would and could profitably speculate by buying up large quantities of grain, relying upon the effect of so doing to raise the price, because there was every appearance of a bad harvest in this country or on the Continent. And they would have time, in those ancient days of fifteen years ago, to produce the effect of raising the price of bread, oats, hay, etc., and make their profit before steamers brought the news from America and all other grain-producing districts where there might be good harvests. Now that condition of affairs is impossible. Every morning the newspaper tells every man who cares to know the condition or change, if any, of every crop of every kind in the world. It follows, then, that the days are altogether gone in which we can have famine prices for any of the staples of life in most civilized countries, and for more than one or two reasons.

First. Every country can ascertain at about what price they can sell to some other country anything they can produce. This, for example, has induced India, America, California, and Australia to extend the growth of grain, which was absolutely not worth considering in some of these countries twenty years ago, until we could now do without Russia, upon whom we were formerly very dependent. And it has brought into use machinery for reaping, thrashing, and shipping. Canals, railways, and steamships have been multiplied for transporting, and this cheapening of the means of getting it in a state ready for market, and getting it to a market, has so developed as to induce the farmers to extend their operations—so much so, that districts as large as all the grain-producing area in this country have been brought into cultivation for the growth of grain in America in last year alone, and the grain grown in India has, in a few years, increased 600 per cent.

Second. The fact that every man in every country knows what he can sell, for about what price, and within what time, is setting an ever-increasing number of commercial minds throughout the world to extend their operations, and you now see scores of articles of food being sold in costermongers' stalls and in the humblest retail shops, as well as in the largest marts, which were unknown to our fathers and mothers. Most of them were either too expensive or too perishable to transport, but now steamers touch at every port, and on their arrival, with a few hours' notice, pineapples, bananas, oranges, oysters, crabs, fish, potatoes, cattle, and anything that man can eat may be bought and sold by telegraph; so that many districts—for example, around the coast of France and Bay of Biscay, and such islands as Malta—which, ten years ago, were very poor, can now produce something which will sell, and with the money they receive they are in a position to buy goods in exchange, and thus we have two results, viz., such a number of articles of food for man and beast available in response to a telegram that famine prices are no longer possible. "If one article fails partially, we can make shift with others," and we know exactly where they are and the day we can get them. And we have, secondly, such a multiplication of large and small commercial transactions that the telegraph, with the aid of steamships, has virtually opened up a vast, new, and invaluable field to the industries of the nations.

Any man with money can buy from the producer, at first cost, exactly what he wants, and get it at the time he wants it. The long and the short of it is, then, that we can talk to, bargain with, buy or sell, within a few hours, often minutes, at any part of the world.

The class of merchants which, until recently, were a great feature of this country—I mean commission merchants and middle men—are rapidly dying out. From the tables in Mr. Crump's book,

to which I have referred, I note these merchants have been leaving the business at the rate of about 200 each year for the last ten years in this country.

Another important change has occurred, and I do not yet know how to estimate its importance. Fifteen years ago the amount of grain, silk, and indigo, and many other articles imported into this country (to be warehoused and transhipped to some other country, was three times greater than is now received, thus giving employment to a great amount of labor, filling our docks with shipping and our warehouses with goods. At present these goods are largely sent from the port where they are loaded direct to the destination where they are wanted for consumption. Or the ship is ordered to call at some port, such as Malta, Gibraltar, Falmouth, or Queenstown, where a telegram is received ordering her to her destination. Thus the merchant who first purchased the cargo has had time to resell it, or, perhaps, ascertain a more likely market for securing a profit, or, it may be, avoiding a loss. While the effect of this may be to alter the value of dock and warehouse property until some other change takes its place, the cost of warehousing and transhipping is saved, and the consumer gets the goods so much cheaper. Only three or four years ago it was, and, to some extent, still is the practice for bankers and merchants to put money into the bank abroad and remit home by post a bill or piece of paper representing the amount. This, too, is changing every day. A merchant now puts his money into the bank, say in India, China, or Australia, and the bank telegraphs to England that it is done, and the same day the house in England can use the money. As another example, a young friend of my own arrived in California from Australia, and telegraphed at 11 A. M. to London for money; by 4 o'clock the same day he had the money at his disposal in California. This facility of using money at all the extremities of the earth means that less capital is now required to conduct the same amount of trade which existed ten years ago. As a matter of fact, one-sixth of the capital is sufficient to do the same amount of business. And as the population of the world is increasing—in America the population doubles in about thirty-five years, in this country in about sixty years, while production of gold does not progress in anything like the same proportion—this means of economizing what we have got is all-important. In fact, but for telegraphy, with an increasing population, you would have famines, and in the wake of famines, as usual, pestilences or epidemics. Whereas, with all the markets of the world open and accessible every hour, you have all the civilized communities on the face of the planet opening up roads, cultivating districts hitherto unknown, and creating, as Mr. Crump says, an extended home trade for the mutual benefit of all nations.

I shall not dwell upon telegraphy as a political weapon. A great deal could be said about it. It unites our empire so that the most remote extremities can be controlled from London. Troops can be removed from one point to another, peace or war can be declared, but it is just as well-calculated to make war more terrible and sudden as it is to make peace more certain. Electricity can be used to fire torpedoes and mines, marshal armies, concentrate fleets, and it may be that such necessities will never die away. I prefer to look upon its humane aspect, and I have only one other general statement to make, which, if I did not wish to avoid any pretence to prophesying, I might term "what telegraphy will do." My opinion is that the rolling out of this electric cord all around the world, connecting all the islands, and all the continents across the broadest oceans, is creating, silently and imperceptibly, but surely and at a progressive rate, an international commerce greater than has ever been dreamed of in the history of the world, and at this moment not half understood by either merchants or statesmen.

Let us hope that when all nations find it to their own interest not to quarrel with any other, lest they destroy a good customer for their goods, or a prolific contributor to their own wants, they will

be slower to engage in war, and more eager to combine to open up the waste places and dark continents of the earth to the present and future advantage, moral and material, of all mankind.

William B. Somerville.

We last issue mentioned the resignation of Mr. W. B. Somerville as general agent of the National Press Association, to accept a position with the Western Union; the position being superintendent of the press transmission department of the latter company. *The Graphic*, of June 23, of this city, publishes a portrait and biographical sketch of Mr. Somerville, from which it appears that his connection with the telegraph business dates back to 1857. He was at first employed as operator at Buffalo, but entered the military telegraph service during the first year of the war, and was attached to General Rosecrans' staff as cipher operator at Corinth, Mass. After the capture of Memphis, he was sent by General Grant with a detail of two companies to open the telegraph lines from Grand Junction, Tenn., to Memphis, a distance of fifty miles, which task he accomplished in four days, putting the lines in working order. Mr. Somerville remained at Memphis one year, and was then assigned to duty at Nashville as cipher operator on General McPherson's staff, and accompanied that gallant commander during his Georgia campaign, being on the staff when the general was killed. Subsequently, Mr. Somerville was detailed for duty as Assistant Military Superintendent of Telegraph Lines in Tennessee and Northern Alabama. He remained in this position about one year, and was then appointed Military Superintendent of Telegraph Lines, and in that capacity built the line through to Grenada, Miss. He continued in Memphis until the military lines were turned over to the Southwestern Telegraph Company, of which Dr. Norvin Green was President. Mr. Somerville then went to Louisville as cipher operator for General George H. Thomas, and also served the Western Union Company in that city, continuing in its employment for nearly five years, when, in 1870, he entered the service of the American Press Association as agent at Louisville. After a few months he was transferred to Cincinnati, a more important post, where he stayed two years, during which time he reported the Greeley Convention; and as a result of his success in distancing the other associations was induced to come to New York as General Manager of the American Press Association. At that time the association was nearly \$14,000 in debt, with a current deficit of \$200 a week. Mr. Somerville took the matter in hand with wisdom and vigor. He effected a prompt and complete reorganization, more than doubling the telegraphic news reports to the papers served by the association, and in less than two years the debt was wholly paid off and the association realizing a profit of \$150 per week. Subsequently, on account of mutual strife among the stock-holders, growing out of the efforts of one man to obtain control, the journals composing the association were compelled to abandon the organization and form the National Association Press, which, under the efficient administration of Mr. Somerville, became a strong and successful news gathering organization. It is entirely out of debt, and the extent of its business may be conjectured from the fact that its payments for telegraphic transmissions alone amount to nearly \$100,000 per annum. By his acceptance of the position of superintendent of the press transmission department of the Western Union, Mr. Somerville increases the facilities at his command for promoting the interests of the entire press of the country. Among the special qualifications possessed by Mr. Somerville for the discharge of the arduous and intricate duties of his present position is his happy faculty of harmonizing interests that under other and less skillful hands might be antagonistic. It may interest Mr. Somerville's many friends to know a fact which his own modesty generally leads him to avoid mentioning—viz.: that in consequence of the recent death of his father he is next in line to the title of Lord Athlumney. Lord Athlumney

was first Sir William Somerville, when he was Secretary of Ireland. The title is at present held by a son of Sir William, who is childless, leaving but one life between the title and the subject of this sketch. There are three estates, the Somerville, the Athlumney, and the Merydith, held by the present lord, all of which, of course, go with the title. Mr. Somerville's grandfather was a major in the British army and was killed at the storming of Badajos. The family goes back to the year 1100, and many of its members were soldiers distinguished for their gallantry and skill in warfare.

The Value of Correct Time.

Correct time is a necessity to every one. As the old philosopher said, "Punctuality is the essence of virtue," but it is an impossible excellence to the person whose watch is wrong. In these days of railroads and railroad-like way of doing business, a man whose time is money to him must attend not only to his hours and minutes, but even to his seconds. To secure the necessary agreement of timekeepers, the town time must somehow be telegraphed, either continuously or at regular intervals, in such a way as to be accessible to all concerned. There are many ways of doing this, nearly all of which depend upon the use of electricity. The simplest method, and one which, perhaps, answers well enough for all purposes of business, is that now practiced in this city. Every day at noon the time is telegraphed from the National Observatory at Washington, and a so-called "time ball" is dropped on the top of the Western Union Telegraph building.

The time sent from Washington is not strictly accurate, but sufficiently so to satisfy the general requirements of business.

In England and Scotland the time is regulated at noon each day by the Greenwich Observatory, and is indicated at all the principal cities by a somewhat similar plan; but instead of the ball being dropped by handwork, by an ingenious arrangement the astronomical clock is made to perform the service, thereby causing a saving of time that is unavoidably lost by the New York method. But even this approximately correct way of obtaining time is hardly sufficient for all purposes, as the true time is wanted continuously. Probably the time service adopted in Boston exceeds all others in precision and accuracy. The beats of the standard clock at Cambridge are regularly telegraphed to a number of stations throughout the city, great care being taken to keep the standard clock correct by protecting it from all sudden changes of temperature and atmospheric pressure.

Electric clocks are used to some extent, in which the hands are moved by electric impulses telegraphed by a standard clock; but these are so liable to be seriously affected by atmospheric changes, as to render them untrustworthy.

A system is being widely introduced in England, which consists in setting the hands of a standard clock every hour by the action of the electro-magnet. At the end of each hour a couple of finger-like projections catch for a moment the end of the minute-hand and set it right, whether fast or slow.

A very simple and satisfactory method of controlling tower clocks, which is now in operation at Dartmouth and Princeton colleges, consists in adjusting the rate of the town clock so that, left to itself, it shall gain slightly, and then stopping it, by an electric current sent from the observatory clock at the close of each hour, just long enough to set it right.

In Vienna electricity is not used, but instead, clocks are controlled by a pulse of compressed air, communicated through a series of pipes like gas mains. It is difficult, however, to see what advantage this plan possesses over those which involve the use of electricity.

Since there are many ways by which clocks can, at a small expense, be made accordant, it seems a pity that there should be such continual disagreements between our public time-keepers, as are common to all our American cities.

Jablochkoff, Wallace-Farmer, and Werdermann.

In a recent lecture, in England, a Professor Redwood said that in 1876 Paul Jablochkoff, a Russian officer, invented a new method of producing the electric light, by means of what he called his candle. This invention has attracted a vast deal of attention and excited great interest. The Jablochkoff candle, as it is commonly called, has been more extensively used for public lighting than any other form of electrical apparatus; and I believe it was this principally that led to the construction of the very beautiful, compact, commendable, and yet powerful machines, called dynamo-electrical machines, that are now used for the production of current electricity. The candle has the great recommendation of extreme simplicity. It consists of two thin rods of carbon placed side by side, with an intervening layer of plaster of Paris. The carbon rods are connected at the top by a little bridge of carbon, through which the electric current at starting passes. This, being very slight, becomes incandescent and soon burns away, when the electric arc is produced. The plaster of Paris is dissipated in the flame, which, if the current be maintained without flagging, and the carbon poles do not alter their relative positions, will continue to pass across from one of the carbon rods to the other. The carbon terminals, however, would soon alter their relative positions if the current were always passing in one direction, because the positive pole would waste more quickly than the negative; but this difficulty is easily met by making the current an alternating one. The principal objection to the Jablochkoff candle is that if, from any cause, the light should become extinguished, there is no ready method by which the candle can be relighted. You must either go up to the lamp, take the globe off, and re-establish the current by means of a new bridge, or else you must turn the current to another candle (of which there are several in each lamp) by means of a switch provided for the purpose.

In the Jablochkoff candle all complicated mechanism is done away with; that is a strong point in its favor. But it is shortlived and has no recuperative power, which are its drawbacks. The Wallace-Farmer and the Werdermann regulators are also free from any complicated mechanism, for the former has only a self-acting electro-magnet, and the latter a weight, by which the poles are kept in position. The Wallace-Farmer regulator consists of two carbon plates, each about half an inch thick, nine inches long, and three inch broad. They are placed one over the other in a grooved frame, with two of the longer thin edges of the plates brought vertically into contact, or nearly so. The lower plate is fixed, while the upper one, which forms the positive pole, slides up and down vertically in the frame, being supported, when in action, by an electro-magnet, which keeps it at a short distance from the negative plate. The electric discharge takes place at the point at which the surfaces happen to come nearest together, and as these wear away the light travels along the contiguous edges of the plates to and fro as long as the carbons last. These regulators are not so much intended for use in lamps as for rough, open air use in cases where an enduring light is required.

The Werdermann regulator appears to possess some very important advantages, which adapt it not only for general use, but for some purposes where some regulators would be inapplicable. The first and most striking peculiarity in this regulator is the great disparity between the sizes of the two terminals or poles, the one being more than sixty times greater than the other. Then another peculiarity is in the relative position of the poles, the positive being below the negative pole, which is the reverse of what is usually the case. And then, again, unlike all the other regulators, the poles are kept constantly in contact, but the lower or positive pole being a rod of very small diameter, the points of contact are sufficient to carry the current, and they are, therefore, surrounded by the usual arc, although this is extremely short and scarcely perceptible.

A Through Circuit to Hong Kong.

Caleb Wilkins had spent nineteen years of his life on the farm before he discovered that it was distasteful to him to follow a plow or handle a hoe. Caleb lived about fourteen miles from Danville, and one day he astonished his good parents by exclaiming: "I'll be blowed if I don't quit farmin', and learn telegraphin'." And quit he did, for the next week found him seated in one of the Danville offices, scratching his head over the mysteries of a Morse alphabet. Caleb was not a very clever student, however, and at the expiration of the year was yet very much in the dark, telegraphically speaking. He was made the unconscious victim of numerous practical jokes, which he took so good naturedly that his persecutors finally ceased to annoy him, regarding him as altogether too easy prey. Last Thursday morning Caleb came to this city to attend the commencement exercises in the Academy of Music, and his departure was promptly wired from Danville to the Williamsport office. Express agent Flynn and Superintendent Talcott, of the Tide Water pipe line, have a wire connecting their respective offices, and these gentlemen arranged a neat joke for the unsophisticated Mr. Wilkins. Knowing Caleb would call upon him before going to the Academy, Flynn told Talcott to be ready to hear from him when the gentleman from Danville arrived. In due time Caleb called, and was soon engaged in a pleasant chat, during which Flynn casually remarked that he had just secured a through line to Hong Kong. This caused Caleb's eyes to protrude from their sockets, and he said:

"Gosh, is that so; how does she work?"

He was assured that it "worked" finely, and asked if he would like to try it. Of course he would, and Flynn opened the key on the wire running to the Tide Water office, and called "P. P." Talcott promptly answered him, apparently from Philadelphia.

"Connect Pittsburgh," said Flynn. "O. K." came flashing over the wire. A prompt "I I; G." from Pittsburgh announced communication with the Smoky City.

"Chan Lin, of the Chinese embassy, here inspecting lumber mills. Wants to talk with Hong Kong; connect Chicago."

A considerably fainter "I I; C H" told Caleb he was now working with Chicago. Omaha, Cheyenne, and Ogden were reached in a similar manner, each station growing perceptibly fainter. When San Francisco was called, and the significant "I I; S. F." sent back, Caleb could hardly contain himself, and threw off his coat in great astonishment.

"Three Chinese subjects: murdered last night; authorities refuse to take action; consul at this port wants instructions from Hong Kong. Connect Japan and China cable." Flynn here explained that the cable could not be secured only on matters of great importance, hence this trifling prevarication.

"Cable connected; through wire to Hong Kong," now came from "S. F." and Caleb applied his ear close to the instrument to catch the first tick which betokened communication with Hong Kong. "H. K." was vigorously called a number of times, the key closed, and in breathless suspense several seconds were passed.

"Electricity travels nearly five thousand miles a minute, and as it is 9,836 miles to Hong Kong, it will take almost two minutes before they hear us," said Flynn.

Caleb could hear the beating of his heart, so quiet and intent upon catching the first pulsation of the cable was he.

"There it comes," said Flynn, as a delicate tremor of the sounder indicated some one working the wire.

"Turn down the other instruments, and hold your breath," said Flynn, and then he and Caleb bent low as the sounder feebly ticked the letters, "I I; H. K."

Harry Schalck, of the P. & E. wire, and Will. Reher of the Western Union, were just going to dinner, and Flynn beckoned them in to hear the latest from China.

Everything being quiet, the following was sent to "H. K.":

"Chinese consul Williamsport, Pa.; U. S. A. wants speak court minister. Can you send courier?"

In a few minutes the answer came slowly, and barely distinctly:

"Midnight here; send dispatch in morning; not allowed to take night messages foreign points."

"O. K. What's new down there?"

"Big time to-morrow; Joss day; rat soup, mouse omelette; come down."

"How does line work?"

"Good, for almost 10,000 miles."

"How did you like Grant?"

"N. G.; too muchee smokee; is Caleb Wilkins still in Danville?"

"Yes, but he's here now listening to you; where did you hear of him?"

"Minister in Washington sends us annual list all damfuhl operators in U. S. A.; his name always at head. Why don't you kill him?"

Caleb didn't wait to hear any more, but went over the counter, and out of the door as if shot from a gun. He did not even go to commencement, and the Danville boys never tire of asking him about that wire to Hong Kong.—*Williamsport, Pa., Breakfast Table.*

Telegraph Companies.

It is evident that the days of monopoly in the telegraph business is about receiving a rude, and yet to the public not unwelcome, shock. As in the case of all monopolies, sooner or later, the Montreal Telegraph Company has hastened the completion of a rival line by its shortsightedness in times past. Twenty-five cents a message is, as things go, a fair price, but this reduction was fairly attributable to the management of the Dominion line; and, as is shown by the receipts of this company, the public remember the insolence and overcharges of the older concern when there was no other alternative but to use its wires. With that folly that usually characterizes the old fogies who cannot see ahead, the Montreal line continued its old prices to the Maritime Provinces, until the Dominion had completed its wires—when again, as is natural, the public patronized the new rival, and felt a relief, not unknown to business men, that there was now more secrecy in their messages by the employment of two lines, besides the satisfaction of a low uniform rate. Mr. Swinyard's new combination with the powerful company already formed in the States will be of incalculable benefit to Canada—ten words to all the prominent cities of the United States! This is coming near the dream of a modern improver of the telegraph system, that some day messages would be delivered at five cents apiece! So mote it be!—*Montreal Shareholder.*

A Human Electric Battery.

An extraordinary story is told by the Boudon (Canada) *Advertiser*. A girl 19 years of age, who has just recovered from a two years' illness, the nature of which the doctors were unable to determine, as there did not seem to be any organic complaint, has developed wonderful electrical powers, and seems to be a perfect battery. A person, unless possessed of the very strongest nerves, cannot shake hands with her, nor can any one place his hand in a pail of water with hers. By joining hands she can send a sharp shock through fifteen or twenty persons in a room, and she possesses all the attraction of a magnet. If she attempts to pick up a knife the blade will jump into her hand, and a paper of needles will hang suspended from one of her fingers. She can not drop any light article of steel she may pick up. On her entering a room a perceptible influence seizes all others, and while some are affected to sleepiness, others are ill and fidgety till they leave. A sleeping babe will wake up with a start at her approach, but with a stroke of her hand she can at once coax it to slumber again. Animals also are subject to her influence, and a pet dog of the household will be for hours at her feet as motionless as in death. Articles which she uses

become magnetized. She is one of seven children, none of the rest of whom show any abnormal qualities.

Lightning Farming.

The latest scientific intelligence from France brings account of some extraordinary experiments now under consideration of the French savants. M. Grandeau, of the School of Forestry, Paris, reports the following among numerous equally astonishing results: In April last, he took two tobacco plants, each weighing about fifty grains and having four leaves. They were both planted in boxes containing mold of identical quality, and placed side by side in a position favorable to their growth. They were permitted free circulation of air, light, and water. One was supplied with a "lightning rod," or electric conductor, and the other let free to the influence of atmospheric electricity. The plants were left to themselves until the middle of August. That under the influence of electricity attained a height of three feet five inches and weighed about 44,000 grains; the other measured two feet four inches, and weighed about 22,000 grains, about one-half. This is only one of the many results obtained. If the electricity is to become a factor in farming, as it is already one in mechanics, we may expect to see some wonderful and substantial revelations, perhaps exceeding the telephone and its allied wonders. Instead of carefully conducting lightning into the ground, we may have, by an ingenious system of network distributors, whole farms fertilized by lightning in a shocking manner. Prof. Tobin thinks the scheme altogether practicable, and says that in a few years every farmer will be using these lightning fertilizers.

The Electric Light.

According to a cable dispatch from London, the Parliamentary committee's report on electric lighting says that sufficient progress has been made to encourage the idea that electricity has an important future for illuminating and as a source of mechanical power. The electric light, even in its present state of development, the committee thinks, may be advantageously used for large areas, whether open or closed, but it is not so far matured as to compete with gas for domestic purposes. The committee, therefore, do not recommend any legislation for applying the light to private purposes, but do recommend that no legislative restrictions be allowed to impede its further development. The committee think sufficient power already exists for applying it to open spaces and large centres, but if such power does not exist it should be granted under proper regulations. They consider, however, that the time is not yet ripe for allowing private companies to break up streets in order to supply electric light, but they advise that municipal authorities should receive all possible help for public lighting by electricity, and that the legislature should be willing to give all reasonable facilities for extending the use of the electric light where proper demand for it shall arise. They consider that for lighthouse purposes the electric light has established itself, but they have not been able to satisfy themselves, from the evidence, that electric lighting is economical as compared with gas.

Referring to the matter of the light not being sufficiently economical for domestic purposes, the *De-troit Free Press* says that it is not in the nature of things probable, however, that even in England, where economy in the price of light means something vastly different from what it does in the United States, this obstacle will long remain in the way of the utilization of the light. It is only a question of time—and not a very long time, either—when the inventive genius which has so successfully controlled the light that large halls and buildings can be better and more cheaply illuminated with it than gas, will solve the problem of the subdivision of the light. This accomplished the way will be clear, and the people will have a light to compete with, if it does not wholly supersede, an illuminating article which in many places in the United States, like the electric light in England, is not sufficiently economical for domestic purposes.

It is said that the Shah of Persia has introduced the electric light in his palace at Teheran.

THE OPERATOR A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY.

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Mr. E. H. JOHNSON sails for Europe to-day, July 1st, as Mr. Edison's European representative.

THE Central Union Company will hereafter be known as the American Union Telegraph Company.

The people who have always persisted in calling the sage of Menlo Park "Professor" Edison, may now be accurate and at the same time satisfy their craving for a scientific title, by calling him Dr. Edison. Rutgers College has bestowed upon the famous graduate of the baggage-car and telegraph office the honorary degree of Ph. D.

THE increases of salaries referred to by a correspondent in another column, refer to the fact that a number of salaries have recently been increased at Cleveland, Chicago and other points. Vacancies having occurred, several men were increased five or ten dollars each, the difference in the salaries of the new men and their predecessors being divided in this manner. Let us hope that "dividends" of this character will be more common in future than they appear to have been since the adoption of the so-called grading.

Any of our readers who would like a very entertaining book should procure a copy of a publication entitled "Wired Love, a Romance of Dots and Dashes." The writer, a young lady of Boston, has produced a very interesting novel, in which an insight is given into one of our most common, but little understood, yet highly important inventions of modern times, and while gaining this information, they will be delighted, amused and interested, by following the fortunes of the heroine and her friends. There does not seem to be a dull page in the little volume, and we hope Mis Thayer will be encouraged enough by the success this, her first published story, will undoubtedly attain, to give to the public another book from her pleasing pen.—*Boston Inquirer.*

WE learn, on good authority, that the Bell Telephone Company and the Gold & Stock Telegraph Company are likely ultimately to come to terms. The suits still progress, but it said that the Gold & Stock recently made overtures to the Bell people, looking to a compromise. It would certainly be much to the interest of both parties to "arrange" the matter, though the introduction of the telephone has undoubtedly been much stimulated by the rivalry. The legal expenses thus far on account of the suits have been simply enormous. The question at issue is an intricate one, and it is not improbable that, if the legal proceedings will go on, each company will be held as infringing upon the rights of the other, and brought to a stand-still or seriously inconvenienced.

A New System of Telegraphy.

Professor Royal E. House, of Binghamton, N. Y., the well-known inventor of the House printer, has recently patented a new invention, which, if all that is said of it be true, seems destined to exert at least an important influence on the future of telegraphy, if, indeed, it does not in a marked degree, revolutionize the entire business.

Mr. House has spent about twelve years experimenting with the new system, and by its aid, as now perfected, he claims to be able to transmit intelligence not only much cheaper and quicker than can be done by the instruments and apparatus at present in use, but with almost absolute correctness. Nor is this all. An office can be called, a response obtained, and a message sent and recorded without a "break," and even in the absence of the operator!

It is possible, also, to send a message to any office on the line in such a manner that no other office but the one for whom it was intended can know its contents; while again, all the offices can be communicated with simultaneously—for the purpose of transmitting press report, for instance—as in the present Morse system. The time required to call up an office, and send an ordinary dispatch by the Morse system is reckoned at two minutes, and the average cost of each message at about twenty-six cents; but Professor House believes that he can send the same message in six seconds, and at a cost of only two cents and five and a half mills.

The following explanation of the *modus operandi* of the new system will prove interesting to readers of THE OPERATOR. The wires used between stations are the same as those now employed. So—with the exception of a slight adaptation to this system—are the batteries. A new alphabet is used by which each break, or close, or reversion of the circuit forms a letter, or separates the words of the message. There are three separate instruments or machines. Number one, which is about the size of an ordinary sewing machine, and can be run by foot, water, or steam power, corresponds somewhat to the perforating machine of the automatic system. As described by a local paper, it has a key-board, with keys lettered, and numbered corresponding to the alphabet and numerals, with pauses, etc., somewhat like the key-board of the ordinary typewriter. Attached to it is a roll or fillet of paper about one inch in width, similar to the paper used with the old Morse register. The operator manipulates the key-board, touching a key for each letter of the dispatch. At the same time the narrow strip of paper commences to pace rapidly over two small, lance-pointed knives which strike it from below, cutting in it, each time they strike, a slit, the same as would be made by the point of an ordinary penknife blade if drawn over a piece of paper on a table. These two knives cut parallel with each other, and each slit so cut represents a letter. They cut in rotation, that is, in spelling a word one letter is cut about a quarter of an inch from one edge of the paper by one knife, and the next letter is cut by the other knife, a corresponding distance from the other edge of the paper, thus making two rows of slits, but none of them opposite each other. These slits are called symbols, and their varying length gives them their individual character as letters or figures. On the

paper after it is cut, they present an appearance similar to the following:

This work is performed very rapidly. The fillet of paper, thus prepared, then contains the whole message, and no more brain work is required of the operator. All the rest is mechanical, and done entirely by automatic machinery. The fillet then passes to machine No. 2, which is the wonderful and important portion of the invention, and where electricity is introduced. The exact counterpart of this No. 2 machine is required in every office on the line. It is entirely automatic in its action, and, being started, will run and transmit news indefinitely.

Each of these machines has a feed cylinder, which is always in motion. Through this feed cylinder the paper which has been prepared or cut in machine No. 1 is passed. Pressure is brought upon this cylinder by simply touching a small lever, and the desired station is thus called.

To explain: Every station has a "symbol" or call, in the same manner as under the present Morse system. These symbols are different from anything which can occur in a message. By an ingenious mechanical arrangement, a wheel, arranged with small sliding bars entirely around its rim, is attached to every machine. Like a combination lock, or any other combination, this wheel is capable of many combinations. A combination, then, on this wheel corresponds to the symbol or call of an office, and the machine of that office is so set, that when any other machine calls for this combination or configuration, as it is termed in the patent, pressure will be put upon the feed cylinder only of the machine so-called, and not upon any of the others on the line.

When the fillet of paper is prepared by the operator, the call or "symbol" of the station to which it is to be sent is cut into the paper in the same manner as, and just preceding, the message. This paper then passes to machine No. 2. In this machine are arranged small blades, the exact counterparts of the knives which have cut the call and letters in this paper, but which are not sharpened. The end of the strip or fillet, which comes from machine No. 1, is passed between two rollers, and over these blades; and as the slits in the paper are reached each blade penetrates the slit, remaining in it just as long as the slit is long. That is, each blade does just what the blades did which cut the slit, except they do not cut anything. They simply enter and leave the slits which have been cut. This opens and closes the circuit.

When the end of a fillet of paper, the "symbol" and message having been cut in it by machine No. 1, is put into the feed cylinder of machine No. 2, and the lever touched, the sending operator's work is done. To every machine No. 2 on the line there are two sets of blades, one for receiving messages, and the other for sending messages. As soon as the machine at the receiving station commences to run, it first answers the sending station by an automatic signal, and then a roll of uncut paper begins to pass over set of knives No. 2, which are sharp, and cut the paper, the same as the knives in machine No. 1, which is used to prepare the paper in the sending office. These knives are worked and controlled by the current which the blades at the sending office open and close, and, consequently, cut in the paper at the

receiving end, which is passing over them, the exact counterpart of the prepared fillet which has been placed in the sending machine. The receiving office now has a message recorded in the office there, and the operator may have been at home and asleep, if need be. The message consists of a long strip of paper full of slits of various lengths. This is then passed through machine No. 3. This is an automatic printing machine. The slits are again penetrated by blades, and mechanism, simple in character, gives an impression from a type wheel corresponding to the letters represented by the slits, and the message is printed ready for delivery. This printing machine is a small affair, perfect in its workings, and a twelve year old child can tend it as easily as a cradle.

It is stated that anybody of ordinary brains can operate all the instruments. For press use dispatches could be delivered to the papers in the fillet or roll, and the running of these fillets through the printing machine done by each individual paper. A time "governor," adjustable by a pendulum, keeps the several machines so adjusted that the speed of each will exactly correspond, thus preventing the blades which open and close the circuit from tearing the paper or enlarging the slits. Professor House thinks that his new invention solves the problem of postal telegraphy, and calls it the House Postal Telegraph System, and those who have seen it say that it is peculiarly adapted for such a purpose.

The American Union and the Western Union.

From present appearances it would seem as if the American Union Telegraph Company may prove the most vigorous rival that the Western Union has yet encountered. The new company, scarcely sixty days old, has already an important system of line under construction; has secured a lease of the entire Dominion Telegraph Company, of Canada, and purchased controlling interests in the stock of two District Telephone companies.

Work is being rapidly pushed forward on lines between Boston and New York; New York and Buffalo; Detroit and St. Louis; New York and Saratoga; New York and Baltimore. When the proposed line reaches Baltimore, which it will within 60 days, immediate connection will be made with the Baltimore & Ohio Railway Company's lines, which are some 1,800 miles in length, and which traverse the most profitable and important section of the United States. The connection with the Pennsylvania Central Railway lines will give the company possession of a large number of offices and an important through connection. It is also said that the Wabash Railway, with over 1,000 miles of telegraph line, running from Toledo to St. Louis, Mo., is part of the scheme, as is also the Union Pacific, Kansas Pacific, Northern Pacific, and other Western roads, which, the moment Chicago is reached, gives immediate connection with the Pacific slope. The Company will have, it is expected, within 60 days, two routes from New York to Chicago, one *via* Baltimore and the other *via* Buffalo, Hamilton, London, and Detroit; and also a connection with San Francisco. The Dominion Telegraph Company having an independent system of its own and a network of wires and offices at Oswego, Buffalo, and Detroit, will, when the contemplated extension from Saratoga to Montreal is completed, form a direct connection

between New York and Boston to Oswego, Buffalo, and Detroit, through the Dominion of Canada.

Referring to the fact that the price of Western Union stock has come down very materially, in consequence of the rapid strides of the new company, and in the face of the recent stock dividend, the New York *Herald* says: "A natural desire to realize the profits which have accumulated during the past few days created some pressure to sell, but it is probable that the weakness of Western Union and Lake Shore created more. The stimulant of a scrip dividend which so long and so successfully supported the price of the telegraph fancy has lost its effect now that the dividend has been made. People are beginning to ask whether it is worth the price at which it is selling, in view of the fact that the company has idiotically depleted itself of something over \$6,000,000 at the very moment when the sinews of war were needed to combat a dangerous opposition. From trustworthy sources we hear that this opposition is assuming formidable proportions. The lines of this new company are being constructed to all important points, and within four months communication will be established between them. As the Western Union system, which has cost the company some \$41,000,000, can be repeated for less than half the money, it is plain that messages can be forwarded at half the Western Union rates, and with an equal return, in the shape of dividends, to the stockholders."

The lease of the Dominion lines to the new company had also a very depressing effect upon the price of Montreal Telegraph stock, while the price of Dominion stock increased in a marked degree. A meeting of the shareholders of the Dominion Company will be held July 2d, to ratify the lease to the American Union Company. Until then the terms of the lease will not be made public.

The American Cable Company.

The *Boston Post*, of June 19th, publishes a long report of an interview between a representative of that paper and Mr. S. F. Van Choate, in reference to the proposed American Cable Company. It seems that Mr. Van Choate, who is general agent, has crossed the Atlantic eight times on the business of the new cable company. He says the company proposes to lay about 7,000 miles of cable, and communication is to be established direct between New York and five or six different European countries. How this is to be done with one cable Mr. Van Choate explains by saying that the company will start directly from New York with a powerful cable and proceed to mid-ocean, where, by the use of new apparatus and instruments especially designed for the purpose, it will branch off like the limbs of a tree to the various countries that are to be connected, thus avoiding the necessity of a number of cables and land lines, and accomplishing for £3,000,000 what by the old method has cost some £10,000,000. It is claimed that the new instruments will permit of a working speed eight times greater than the present, and that the company will be able to reduce the tariff to European countries to a few pence—say 12½ cents a word—and still earn a good dividend on its shares. This, in brief, is what Mr. Van Choate tells the reporter. The reader can take the statements for what they are worth; but we must say that the published report

looks either as if it were written by one of the projectors of the proposed new cable, or that the *Post* is interested in the scheme, and sent a reporter to interview Mr. Van Choate at the latter's request.

The American Cable Company is the same that recently announced—also through the *Boston Post*—that it had secured the exclusive right to use an electrical discovery, by means of which at least two hundred, and as many as two thousand words a minute can be signaled through a submarine wire! It also asserted that, by this process, an entire number of the New York *Herald* or the London *Times* could be transmitted through the cable from New York to London or Paris, or from London to New York, and be reproduced at those points in *fac simile* on a stereotyped block or plate, complete and ready to be printed from, in thirty minutes, and at a trifling expense.

Net Profits \$4,238,988.77 a Year.

At the regular quarterly meeting of the Western Union Telegraph Company in this city, June 11th, President Green stated that the net profits of the company for the month ending March 31st, \$931,324.85 was or \$10,341.36 more than estimated at the last quarterly meeting. The net earnings for the three months ending June 30th is estimated at a still larger sum, \$1,103,002.98. The net profits for the past year has been \$4,238,988.77; or, after deducting interest on sinking fund and bonded debt, more than sufficient to pay a dividend of nine per cent. on the entire and much watered stock of the company. In view of this excellent showing, the executive committee resolved to divide the surplus stock now in the treasury of the company, and which amounts to about seventeen per cent. of that held by each stockholder. Among the present shareholders a quarterly dividend of 1½ per cent. was also declared. Thus the company progresses, and thus the shareholders are enriched at the expense of the overworked underpaid employees, who toil along from day to day and from week to week without even a thought being wasted upon them by the managers of the company or the executive committee. Surely the company whose net earnings amount to nearly four and a quarter millions of dollars a year, could afford to pay its faithful employees living salaries, and not keep them ground down in the dust as the Western Union now does. It is to be hoped that the company will be brought to give this subject attention when the Central Union company shall become strong enough to enter the field as a real rival. This item was crowded out of last issue through an oversight.

The editor of the *Journal* keeps stirring the men up to the necessity of acquiring a scientific knowledge in order to make themselves competent to fill more elevated positions, and 'tis well. It is hardly necessary to say that the peculiar strain to which the mental faculties are put, in our business, (after a man has been skimming along all day, and in some cases up to nine P. M., at lightning speed), make it absolutely necessary that he should have a little recreation in the way of some light, and interesting reading after his day's labor. A work on electricity is just what they stand in need of, but they might not have been able to discover what they wanted without the valuable aid thus opportunely tendered them, for which, many thanks.

The Belgian Telegraph Service.

From the report of the Director-General or the telegraph service of Belgium for the year 1877 we learn that for several years the increase of telegraphic correspondence in Belgium has been almost arrested. In 1877, for the first time, the number of private messages fell below that of the preceding year, and although the results for 1878 exceed even those of 1876, there are as yet no signs of the revival of trade from which much is expected.

Out of 1,966,473 messages exchanged between Belgian offices during the year there were 55,326 "urgent" messages, 74 repeated messages, and 122 acknowledgments of receipt. "Urgent" telegrams, securing priority of transmission by means of a higher charge, have been accepted in Belgium for twenty-three years without causing any objection or inconvenience whatever. The charge for urgency was at first fixed at three times the ordinary rate. It was afterward thought prudent to charge a quadruple rate, but in 1869, after three years' experience, it was found possible to transmit these messages at double the ordinary charge. The double rate is obligatory for telegrams handed in after nine in the evening for transmission during the night, 7,529 out of 55,326 "urgent" messages being thus charged. This class of telegrams during the day comprises but 24 per cent. of the whole traffic, which small proportion is explained by the nearness of the towns to each other, the large number of railway lines, the rapidity of the postal communications, and the large number of deliveries.

About half of the urgent messages sent occupy less than ten minutes in transit between the sender and receiver, a large number of these telegrams being exchanged between the Brussels and Antwerp bourses at hours when the correspondents are within a few steps of the instruments. This instance shows the practical utility of priority in virtue of the higher charge. If the correspondents who direct their operations by means of questions and replies exchanged in ten minutes had to wait their turn, they would often be unable to avail themselves of the telegraph. This deprivation would not profit any one, for, in the proportion in which they exist, "urgent" messages do not cause an appreciable delay to the ordinary correspondence. Repetitions can be obtained for 25 centimes—5 cents—and it is a striking proof of the accuracy of the service that it is only demanded once for every 40,000 messages. It is very rare that a dispatch is completely lost in course of transmission. Nevertheless, this does occasionally happen, and no telegraphic service can offer absolute guarantee against non-delivery from this cause. The only safeguard lies in the acknowledgment of receipt. Although in Belgium this costs half a franc—twice as much as repetition up to thirty words—it is demanded six times in 100,000 messages—no doubt as much as a check upon the correspondent as upon a telegraph service.

Telegraphic remittances, at charge of 1f.—20 cents—acknowledgment of receipt included, in addition to the postal rate, numbered 14,846 during 1878.

In the four principal cities (Brussels, Antwerp, Ghent and Liege) a letter or post-card bearing, in addition to the postage stamp, a five cent telegraph stamp, is delivered express by means of the service of messengers organized for the distribution of telegrams. This service is conducted in a certain number of fixed posts connected by tramways. The letters and cards are received at all postal and telegraph offices, and may be deposited in special boxes provided on the cars. This service dealt with 51,286 letters and 48,467 post-cards in 1878, the receipts to the credit of the Telegraph Department being 24,938f.—about \$4,900.

On Dec. 31st last Belgium had 648 offices, and worked 1,161 instruments. The Morse instrument is in general use in all the offices, with the addition in the principal towns of the Hughes printer. A few offices work the A B C instrument. There are 1,143 Morse, 48 Hughes, and 10 A B C instruments in use. The total number of persons employed in the telegraph service was 3,685.

The Swindler "Cardoza" Again.

The self-styled Cardoza, whose swindling operations in Wisconsin we recently exposed in these columns, has been at his old tricks again, this time in Virginia. Our readers, especially those in Maryland, Pennsylvania and Delaware, would do well to be on the look-out for him. It is not improbable that he will now change his name, and the business card he carries, as he has learned that THE OPERATOR contained an account of his doings. He offered the Western Union messenger boy at Staunton, Va., two dollars for the copy of THE OPERATOR containing the *expose*, but it was refused him.

From a Harrisburg, Va., paper we learn that Cardoza swindled a liquor-dealer in that place out of \$9.25, by representing himself as a partner in the wholesale wine and brandy house of Joseph Cardoza & Son, of Los Angeles, Cal. He had been sick, he said, was out of money, had telegraphed his father to wire him some, but needed \$9.25 to get to where the money was, and so on. After giving him the money, the liquor-dealer had some misgivings, and asked Mr. C. N. Wells, operator for the B. & O. R. R. at Harrisburg, if he knew anything of Cardoza. Mr. Wells said he did, and showed him a copy of THE OPERATOR containing an account of a similar confidence game by the same man in Wisconsin. Telegrams were sent down the road, but Cardoza could not be found.

The chief of police of Harrisburg sent a number of postal cards to different points, containing the following very fine description of the rascal: "He is a Spaniard; very dark skin; will weigh probably 160 pounds; is about 5 feet 7 inches high; talks very broken; is wearing a dark mixed suit of clothes when here—coat, cut sack, square corners instead of rounding—a black felt hat, narrow brim; wore wide box-toe boots, notch bottoms, the soles extending far out; wore no jewelry, no watch, and had no baggage when here. He has dark hair and mustache, though the mustache is not heavy, large mouth, and a right good talker. Has in his possession a telegram, as from his father, stating that he had sent him per express four hundred dollars."

Wake Up.

We are all more or less interested in the Montreal Telegraph Company, and the shareholders recognize with pleasure its efforts in times past to furnish the public with the latest news, although at its high charges they have frequently growled. But a drowsiness seems to have overtaken the company—an infusion of new blood is evidently wanted, and if some vitality is not soon galvanized into action—it may be a serious matter. These remarks originated while reading that the Dominion Telegraph Company has been awarded the contract for the construction of the new shore line between Canso and Halifax, connecting all the lighthouses on the shore. The construction of this new line is the first step toward the completion of Dr. Fortin's scheme for connecting the shores of the St. Lawrence and coasts of the Maritime Provinces by telegraph, and if this be true, a blow has been struck at a vital part of the business of the Montreal Telegraph Company. It is full time the directors awakened to take a true view of current events. There is something more to do than drawing interest on their stock, and the shareholders expect them to do it—if not already too late.—*Montreal Shareholder*

Women in the English Postal Telegraph Service.

Will you (says a correspondent to the London *Daily News*) allow me through your columns to direct the attention of the public to a matter in which I venture to think, they are not a little interested? At the present time large numbers of young women of the middle classes, whom circumstances have driven or led to seek remunerative employment, find it in the Government Telegraph Department. With this, the general public are, I believe, quite satisfied. They are of opinion that the large and increasing class of women who must be self-supporting are thus afforded a mode of self help which benefits them, and for which they are well fitted. The government appear to think otherwise. During the last two years no female clerks have been taken on in the Telegraph Department, and the female branch of the Government Telegraph School is closed. Those women who are already employed in the department have not, it is true, been dismissed;

but, as the places of those who leave are not filled up, those who remain are subjected to an ever-increasing amount of work, and their position is constantly growing worse. Is this with a view to producing breaks-down which may be adduced as a proof that women are incapable of this class of work? Female clerks are supposed to work eight hours a day. As a matter of fact, those employed at the Central Telegraph Station are called upon to work ten hours a day, and six hours a day in alternate weeks, being further liable in the six hour week to overtime if required. There is no break in the work-time except half an hour for dinner. The Factories Act, 1874, says that no woman shall be employed continuously for more than four hours and a half. Is it a fair test that the strain of the ten-hour week, now that the staff is so reduced that each must do more than the work of one, tells sorely on many girls, and forces some to leave? In a word, I ask the public whether they do not think that a two-fold and not very straightforward process of excluding and expelling women from a field of work hitherto open to them is being carried on, and whether it is their wish that this process should be continued and consummated?

Natural Enemies of the Electric Telegraph.

There is, apparently, no apparatus so liable to be interfered with by what we may call natural causes as the electric telegraph. Last week we saw what perils from vermin and fungus environ the subterranean wires. Fish gnaw and mollusks overweigh and break the submarine conductors; while there is at least one instance of a frolicsome whale entangling himself in a deep sea cable, to its utter disorganization. It is stated that within the three years ending 1878, there have been sixty serious interruptions to telegraphic communication, in Sumatra, by elephants. In one instance those sagacious animals, most likely fearing snares, destroyed a considerable portion of the line, hiding away the wires and insulators in a cane break. Monkeys of all tribes and sizes, too, in that favored island, use the poles and wires as gymnasia, occasionally breaking them and carrying off the insulators; while the numerous tigers, bears, and buffaloes on the track render the watching and repair of the line a duty of great danger. In Australia, where there are no wild animals to injure the wires, which are carried great distances overland, they are said to be frequently cut down by the scarcely less wild aborigines, who manufacture from them rings, armlets, and other varieties of barbaric ornament. It has been suggested, as a means of protection in this case, that the posts should be constructed of iron, when the battery could be used to astonish any native climbing them with felonious intent.—*Scientific American*.

41,000 Words in 17½ Hours.

Referring to the paragraph from the Boston *Globe*, recently copied in THE OPERATOR, the Washington *Republican* says: Eight thousand words in five hours is very good for Boston, but our New England friends know very little, apparently, about downright telegraphic work. Mr. L. B. McCarthy, of the Associated Press wire, reported for duty at the Capitol at noon on March 3. Congress, contrary to expectation, sat until daylight, and after a brief recess, reassembled. Mr. McCarthy, owing to the illness of one of his co-laborers, was "stuck" until half-past one o'clock Saturday afternoon, having been on duty, without sleep, twenty-five and a half hours. During this time he sent all the matter that offered—41,000 words—and left the wire clear for New York, Philadelphia and Baltimore, to transmit their matter eight hours out of the twenty-five and a half. During the remaining seventeen and a half hours he sent by the ordinary method 25,500 words in twelve and a half hours, and 15,500 in five hours by the Phillips system of codification. When relieved he was found to be sending at the rate of forty-two words per minute, and in the last two hours he was on duty he transmitted 4,400 words by the ordinary method.

This only grant me, that my means may lie
Too low for envy, for contempt too high;
Some honor I would have;

Not from great deeds, but good alone;
The unknown are better than ill-known;

Rumor can ope the grave.

Acquaintance I would have, but when 't depends
Not on the number, but the choice of friends.

Thunder Storms.

In thunder storms the electricity is discharged from the clouds and inducted into the earth, and the earth also discharges electricity and inducts it into the clouds, so that we have these two sources of electrical discharges during one of these storms. A discharge of electricity, or lightning, which frequently does great damage to property and life, may, as we see, proceed from the clouds or earth beneath. Many instances are recorded of earth discharges of the electricity which have been very destructive to animal life and buildings. Houses and barns have been reported as terribly shaken and shattered by an earth discharge of lightning beneath them, in which various materials on the ground floor were carried aloft and high into the air like an explosion of gunpowder. Thunder storm clouds have plates or strata. The discharge of electricity to the earth takes place in the lower cloud, and what is called sheet or heat lightning is that which undulates silently between the lower and upper clouds without any report. Hence, thunder storms generally prevail in the lower regions of the atmosphere, and are the most frequent and violent within the tropics, decreasing in frequency toward the poles. They are generally attendant with an alteration of the wind and temperature, and are conducive to health and purity of the air we breathe.

A Proposed New Pacific Cable.

Capitalists of Hamburg, Germany, are agitating the project of laying a cable between San Francisco, Cal., and Yokohama, Japan, thence to Tien Tsin, finally to connect with the Siberian telegraph line to St. Petersburg, Russia. It is believed that the scheme will be carried out, and that ultimately another cable will be laid, connecting with Asia, and Sidney, New South Wales. German interests in the Pacific has been largely extended during the past decade, and are now second only to those of Great Britain. Swift communications are of the first necessity, in order to profit by the state of the European markets, and the almost interminable distance of the islands and trading posts on the Asiatic continent from existing telegraphic lines renders the proposed cable a practical necessity. Incidentally it would be of great benefit to San Francisco and California in developing trade in the Pacific, as is always the case where close connections are effected. As an incentive to the Hamburg capitalists, it is pointed out that the present Pacific Coast telegraphic connections are run on a profitable basis to their proprietors.

Rowing on the Harlem.

The employes of the Western Union Telegraph Company in this city held a regatta on the Harlem River, Wednesday, June 18th.

The first race called was a single scull, in which F. W. Cushing and Thomas Brennan competed. Cushing led his antagonist by three lengths at the half mile, and won easily; time 7.374.

The single scull gigs brought out A. T. Creelman, E. F. Howell, John Mahoney and D. C. Donahue. Mahoney jumped away with the lead, but not many feet had been traversed before Howell was in the van, a position which he maintained to the finish, winning in 7.564.

The third and last race was for double sculls. There were two crews: Hugo Weise and John Young, and J. Mahoney and D. C. Donahue. The first mentioned crew got away quickest, and soon had a formidable lead; but at the three-quarter-mile mark Young gave out, one of his hands being injured. Their opponents rowed the distance in 11.564.

The first two events were a mile straightaway. The double scull race was a half mile further.

Salaries in the Buffalo Office.

Can anybody explain to the operators of Buffalo why they are left out in the cold in regard to increase of salaries. We are told that salaries have been increased at Chicago, Cleveland, Boston, Philadelphia, and at all the large repeating offices. Why should the just demands of Buffalo operators be ignored. Is it because Buffalo operators work from 8 A. M. to 9 and 10 P. M. every other night without extra compensation? Is it because they are paid less than at other offices? Is it because N. Hucker is manager

only in name? When the Grand Sliding Scale went into effect here each and every operator was reduced from \$50 to \$30 per month. Manager Hucker explained to the operators personally that when a 60, 70, 80 or 90 dollar vacancy occurred the vacancy would be filled by a \$50 man, and the difference between \$60 or \$90 would be divided among men in each grade. Several vacancies have taken place since then, two of \$80, and \$50 men have filled the places, but as yet there has been no increase for any one. There has not been an increase of salary in this office in the past four years.

BUFFALO, N. Y.

MANY.

Echoes from 197 and City Items.

Two little girls were killed in the upper part of this city by lightning June 29th.

External vigilance is the motto of the Executive Committee, and a steady paying dividend.

It wouldn't be a bad idea to furnish all delivery offices with a horse and truck, to "draw" back the answer.

Are the members of the Executive Committee believers in the Ingersollian theory? If so, their action becomes somewhat intelligible.

The moonlight excursion of the Washington telegraphers, June 16th, was a pronounced success, and reflected much credit upon the gentlemen who had the matter in hand.

Every man who sends a message and says answer on it is always very positive that the party receiving it will do so immediately, and they generally do—when it suits their convenience, not his; some even do it by mail.

A police officer has been held for trial in this city for clubbing an American District policeman. The latter was trying the doors of stores belonging to subscribers of the American District, but the officer thought he had no business there, and clubbed him for not "moving on."

It would be well for some of the officers of the A. D. T. Co., in their intercourse with the boys, to remember the old adage that "familiarity breeds contempt." The boys at present have not got any too high an opinion of their dignity, and they can ill afford to allow them to let it become still lower.

Mr. James H. Lyman, of 197, has been for some time, and is now, confined to his home, with a serious illness. His recovery is considered extremely doubtful. It is no exaggeration to say that no one could be more generally missed, or their absence more deeply regretted, than Mr. Lyman, who is a universal favorite. The sympathy felt for him is widespread.

A certain gentleman in the business, who has always been noted for his consideration of self, and who has been enabled, by judicious conduct, and a little pulling from above, to get himself snugly ensconced in a rather comfortable position, expresses himself to the effect that his only regret is, that he has to leave this world at all. He has a good thing, and no trouble of any consequences, and if he had his way he would live here forever. There are, undoubtedly a few others who act and feel pretty much the same way.

The following occurrence, which is literally true, may be put down as a companion picture to the man from the rural Deestricks, who wanted to know who "Grant" was, and what he had done. A female stepped in one of the city offices, and wrote a message, and then asked for an envelope. "Do you wish to send it by a messenger boy?" inquired the artist. "No; I want to send it by telegraph," was the reply. "You don't require any envelope, then," she was informed. "Oh, yes I do," she said. "I want to send it by telegraph, but I don't want any one to see it, and I'd like to send this one dollar bill with it." She didn't though.

A mysterious case of wire-cutting occurred in this city on Thursday night, June 19th. At about half-past ten o'clock that night, two men were discovered on the roof of the Metropolitan Hotel, cutting and throwing into the street wires belonging to the American District Automatic Fire Alarm, Gold and Stock Western Union, and Holmes Burglar Alarm Company. About sixty wires had been cut. Inspector Skillman, of the American District, requested the detective of the hotel to arrest the men, but he refused. The Inspector then brought an officer, but the detective would not let them on the roof, and the depredators escaped.

We are happy to say that Mr. James H. Lyman, who has been seriously ill, is convalescing.

Mr. Gilbert D. Merrill is back with us again, much to the joy of his comrades. "Gib" is rapidly regaining good health and spirits.

Manager J. R. Dennis, of the Mining Exchange office, has resigned and goes to California to engage in other business; he is replaced by Mr J. W. Mead.

A friend in need is a friend indeed. For many acts of kindness extended to their brethren in ill health, the New York operators return to Manager A. S. Downer cordial thanks.

Canada announces an electrical girl, who, by mere contact, can impart a powerful shock. We do not desire to discourage Canada, but her new production is nothing wonderful—there are plenty of girls in the United States who can shock anybody at sight.

The business of the Error Department, in correcting addresses, obscure, words, etc., has grown to enormous proportions. This would seem to indicate that the judgment of even the first-class people is occasionally at fault. Would it not be well to supplement the judgment, with a little care, and a little more space, at such places. The experiment is worth a trial.

"Deadeye, Buttercup and Josephine," was the way it should have been, and yet, strange to say, it NEVER occurred to him that Deadie would be apt to cause a smile among the sisters. A horrid suspicion flashes through the mind that perhaps he may not ever have heard of H. M. S. P. If such be the case, let us take up a subscription for him, and make him happy for the remainder of his days. He is a curiosity.

Tommy Burke has been transferred, and advanced thereby deservedly, from and 791 to 407 Broadway office. He regretted leaving his associates of the former office, but felt utterly despondent at being no longer permitted to work three evenings a week till nine p. m., as heretofore. He only works two now, though he still lives in hope. The writer is not quite certain that he felt so despondent on this point, as his words would seem to indicate.

The announcement of the death of John C. Bell, of the Gold and Stock Telegraph Company, on Saturday, the 28th inst, was a painful and unexpected shock to the old telegraphers in New York. Formerly a member of the Western Union night force at 145 Broadway, but for several years past identified with the Gold and Stock, he was widely known and his untimely death will be lamented by a host of friends in the United States and Canada. It is a matter of sincere regret that the fact of his serious illness was known to so few of his friends at the Western Union office, among whom he was so universally esteemed, and as yet it seems to them almost incredible that open-hearted, open-handed "Jack" Bell is no more.

The New York Wire Club.

"Life is as tedious as a twice-told tale, vexing the dull ears of a drowsy man." —Shakespeare.

In the Indian lore, said President Borst, is a legend telling of shapes that flit before us, beckoning onward, but which we are unable to reach.

"Beauty that eludes our grasp.

Sweetness that transcends our taste,

Loving hands we may not clasp,

Shining feet that mock our haste."

The Wire Club has been to me, continued the speaker, a realm "where comedy and pathos dwelt, where laughter touched tears and sadness bloomed into mirth." But how dingy the pleasure-ground; how tattered the garlands are, and what a number of the lights have gone out! The valedictory of President Borst was an oration which, for purity of diction, splendor of rhetoric and eloquence of delivery, has never been surpassed since the foundation of the club. It was a masterly effort, delivered without notes, and from beginning to end compelled the unflagging attention of the audience. At several points in the address the wonderful magnetic power of the speaker roused his hearers to a pitch of excitement bordering on frenzy, and the wildest applause surged through the building. Mr. Borst closed with a peroration of matchless beauty clothed in a wealth of language that reached the grandeur of inspiration. He was warmly congratulated, and at the conclusion of his eloquent exordium the club adjourned sine die.

Base Ball.

A match took place at Prospect Park, Brooklyn, on June 21st, between the Western Union Base Ball Club and the Montagues. The latter club is composed of men from the branch offices in this city. The W. U. club was more than a match for the Montagues, but everything passed off very pleasantly. The score stood:—

W. UNION.	R.	MONTAGUE.	R.
Hussey, c. f.	2	Maloney, c. f.	1
Shannon, p.	0	O'Neill, p.	1
Mitchell, 2d b.	1	Wafer, 2d b.	1
Neilon, 1st b.	0	Bryant, 3d b.	0
Joshie, s. s.	2	Cahill, s. s.	2
Empey, c. f.	0	Nelligan, c. f.	0
Wilcox, 1. f.	2	North, 1. f.	1
Joy, 3d b.	0	Calhoun, 1st b.	0
Turney, r. f.	2	Brannister, c.	1
Total.....	9	Total.....	6

Dashes Here and There.

Telegraph operators should read the new telegraphic novel, "Wired Love." Its love-making is all, or at least a good deal of it, done by and dependent upon the wire. Morse did not bring remorse in this instance by his invention. —*Pittsburgh Chronicle.*

A lady in Madrid, Me., was in a house which was struck by lightning. A valuable gold watch which she wore stopped at the time, and, although jewelers have repeatedly examined it and pronounced it perfect in every particular, it cannot be made to move. It is so charged with electricity that watchmakers say no part of it can ever be made to do duty if taken out and put into another set of works.

Professor Cohn, of Breslau, finds that letters, spots and colors are perceived at a much greater distance through the medium of the electric light than by day or gas light. Eyes which could with difficulty distinguish colors by day or gas light were much aided by the electric light. Professor Cohn thinks that the electric light would prove exceedingly useful in places where it is desirable that signals should be seen at a great distance.

It is astonishing what great transformations may take place through a moment's inattention. It was written down mechanically, without the usual scrutiny being given to the words, in their relation to each other. But a short time had passed when an excited party entered and wanted to know, what in thunder kind of a train that was he was asked to meet. His correspondent was made to say: "Meet me at the depot on the arrival of the *tea party* (10.40) train."

Whether or not the peculiar circumstances were a sufficient justification for the perpetration of the following, each one will have to decide for himself. The gentleman wrote his message to the steamboat agent to "Reserve the bridle chamber" for himself and wife, and the operator swears that he saw an old stage horse laugh at the man, as he crossed the street afterwards. This latter statement, however, lacks confirmation, and will not be insisted upon.

At a recent railroad convention, the following resolution was proposed and immediately laid under the table, and stepped on. From information received, it would appear that the mover of it had in former times been a telegrapher, and had a fellow-feeling; "Resolved—That in the future all telegrams will be condensed as much as possible, and in rare cases only shall they exceed 1,000 words each. Their number shall also be curtailed as much as the requirements of the service will permit, no man being allowed to send more than 500 a day."

The telegraph is a great institution, but it causes a great deal of trouble in the world. Recently the New York *Sun* published the views of an observing man, touching the condition of things in California, under the title of "California Seen by a New Yorker." In one place the writer said: "The moral tone in business circles is very low. There are more rascals to the square foot on Montgomery, Pine and California streets than anywhere else on earth; rich man and rogue are almost synonymous terms here." This was telegraphed to San Francisco, and when it reached there it read: "Irishman and rogue are almost synonymous terms here." Every mail now brings the editor of the *Sun* a score of bitter denials from indignant Irishmen and much abuse for the man who permitted such a slander upon the sons of Ireland to be inserted in his wide-spread journal. —*Baltimore Gazette.*

The submarine cable off Arica has been destroyed by the Chilean fleet.

A Frenchman has succeeded in ploughing by electricity. Three Gramme machines were used, and the plows were propelled by means of two cables.

The Edison Telephone Company, of Europe, has been incorporated in London, with a capital of \$100,000 in 1,000 hundred dollar shares. Thomas A. Edison, Robert L. Cutting, Robert L. Cutting, Jr., S. S. White, and James H. Banker, are the incorporators as well as trustees for the first year.

A special telegraphic commission, which recently sat at St. Petersburg, Russia, recommends a large extension of lines throughout the empire; 410 stations, to be finished in five years, at an outlay of 840,000 roubles yearly, and 219 additional offices at a subsequent period.

An operator sent a message from one city to another for accommodations for 30 "prisoners," instead of "persons," and the sequel was that a leading opera house company was received at the depot by a party of sheriffs and policemen, ready to escort the aforesaid "prisoners" to the lock-up.

We commend the following to those operators who think that there can be no harm in turning out an occasional embryo telegrapher: "Every man is a debtor to his profession, from the which, as men do, of course, seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help therunto."

The Japanese government is rapidly pushing forward the construction of railroads and telegraph lines. There are now about 150 telegraph offices in Japan, and nearly 6,000 miles of wire in operation. The insulators are made in the village of Iwair, and it is said that the quality is so unusually good that orders for insulators are received from all parts of Europe.

TO KEEP WELL.—Telegraph operators use their brains much and their muscles little. For this and other reasons they suffer from torpor of the bowels, constipation, and other bodily ills. They should be cured, as so many others have been, not by purgatives, but by foods. Scientific feeding is a leading science to day, which all our friends will admit who will write to the Health Food Co., 74 Fourth ave., New York, for free pamphlets and will carefully peruse them.

The time is coming, says the Rochester *Democrat*, when electricity will produce for us scenes from distant places. A gentleman in London has just perfected a process whereby a man can sit in New York and have his picture photographically reproduced in Rochester. When that day dawns, plodding journalists and professional men can have base ball grounds, and race tracks, and water courses thrown on their tables by the camera process, and get as excited over each stage of the game or the race as the artist on the spot.

Invalids can remain in their sick-rooms and hear their favorite minister's sermon—by telephone. Last week in a church in Richmond, Va., a transmitter was placed upon one of the pillars of the pulpit, almost entirely hidden from sight. A small insulated wire ran down inside the pulpit rail and across the angle of a stair, up the wainscoting, and along under the top rail out through a gimlet hole in the window frame, and to the top of the parsonage, passing down through the ventilator into the chamber of an invalid young lady, where it was attached to the ordinary hand telephone. Imperceptibly to all around the little instrument did its work, conveying to the ear of the patient sufferer the sounds of the well-known voice in the pulpit for the first time in long years. Of course the reverend doctor was anxious during the morning sermon, as his thoughts reverted to the distant listener, to know if she heard, and his pleasure may be imagined when he learned that the entire service, sermon, prayers, hymns, organ and singing had been audible to the person for whose comfort the arrangement had been planned.

He who goes to work with energy and perseverance will set every obstacle in the way of his success flying like leaves before a whirlwind. A man may have sufficient ambition to desire a place on the topmost round of the ladder of success; but if he does not unite with it indefatigable perseverance and indomitable energy, his progress upward is likely to be slow indeed. The world is a hard taskmaster, and though it will give pity to the unsuccessful, it will give little else.

PERSONALS.

Dr. Chas. J. Carey, a well-known House printing telegrapher of New York and Philadelphia before the war, died at the Central Hotel, Augusta, Ga., June 25th.

Samuel Bucher, Marshal of Westport, Mo., was shot and instantly killed Sunday afternoon, June 15th, by Wm. M. Gossard, an operator, of Kansas City. The cause of the murder was that the Marshal attempted to arrest Gossard on the 1st of June.

Mr. John Wilson, agent for the North Carolina R. R. Company, at Charlotte, N. C., and well-known among the fraternity for his liberality in supplying passes and pecuniary aid to traveling telegraphers, died at Charlotte, June 25th. Mr. Wilson was born near Petersburg, Va., and was about 40 years of age. For many years he had been connected with the North Carolina Railroad Company, filling the several stations of telegraph operator, conductor, master of transportation, and general freight agent, until he went to Charlotte in 1870 to take the company's agency there. In each position he was faithful and irreproachable. No man stood higher in the service, and as the news of his death was received along the line, many were the lips that repeated with the deepest regret: Poor John Wilson!

A. & C. AIR LINE R. R.—The telegraphers on the Atlanta & Charlotte Air Line R. R. are: At Atlanta, Ga., A. N. Oldfield, train dispatcher; E. A. Hackett, dispatcher's operator; H. T. Meyer and T. G. Wall, operators general off.; D. U. Sloan is operator and agent, Norcross, Ga.; C. H. Smith, at Buford; J. H. Morgan, at Gainesville; S. A. Oliver, at Belton; John Euright, at Lula; Wm. Bevoys, at Mt. Airy; F. J. Ausley, at Toccoa; M. Zimmerman, at Westminster, S. C.; J. A. Baldwin, at Seneca City; D. G. Whitfield, at Central; H. J. Gigriliatt, at Easley; David Henning is day operator, T. W. Baum is night operator and W. P. Parry, W. U. operator at Greenville, S. C.; F. M. Hardin is agent and operator, Wellsford, S. C.; J. E. Gable is day operator, Mr. Brown night man and J. A. Allen, Jr., W. U. operator at Spartanburg, S. C.; Jeff. Heord is agent and operator, Cowpers; J. O. Scott, also Mayor of the town, is operator at Gaffneys; Arthur Ramsner, at Blacks; J. K. Dixon, at Kings Mountain, N. C.; J. E. Page, at Gastonia; William Arthur is day operator and J. E. Adams night man at Charlotte, N. C.; E. W. Wood is operator at machine shops, Charlotte; T. H. Allison is operator Air Line Junction, Charlotte; and W. W. Carpenter, operator material train.

KANSAS CITY, Mo.—W. L. Jones of Leavenworth, Kansas, has been added to the W. U. force, *vice* Rattery, resigned. G. V. Gentry from Wyandotte, Kansas, has relieved S. D. McMahon. J. R. Magill has resigned, and was relieved by W. S. Glover, who was afterward sent to take the place of Gossard at Coates House. Fred. Loomis from Chicago takes Glover's "trick." Lander relieved W. L. Angle June 19th. Angle has brought his telegraphic career to a close. For the next three years or more he will

—serve a term

As office boy in an attorney's firm."

We are glad to learn that Mr. E. W. Emery, night operator for the Cheyenne and Black Hills Telegraph Company at Deadwood, Dakota, has been appointed manager of that office, to fill the vacancy caused by the resignation of Mr. James Halley. Mr. Emery is a well-known telegrapher, and his many friends, east and west, will be pleased to hear of his preferment. Mr. Samuel Kelley, formerly of the Western Union office at Cheyenne, Wyoming, will be Mr. Emery's assistant.

MARRIAGES.

GILLESPIE—HICKMAN.—June 4th, at the residence of the bride's father, Kansas City, Mo., Mr. James Gillespie, assistant chief operator Western Union, to Miss Annie Hickman.

DEATHS.

Price—June 8th, at 8.30 P. M., Nellie Price, late of 197 Broadway, New York office. Miss Price had been a sufferer from slow consumption for upward of two years, and what she underwent will be readily understood when that is said. The ladies of the above office showed her a great deal of kindness during her illness, and done much to smooth her path to the grave. A [simple pillow of tea roses, "from Nellie's companions," was their last touching tribute.

P. O. Box 3,332, New York.

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No. 6	Wire in 1/4 mile bundles,	550 lbs. per mile.
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The discovery of the insulating compound known as Kerite is the result of more than ten years of interrupted experiment and application, as well as twenty years previous experiment and experience in the manufacture of India rubber. About ten years of this time was spent in assisting Mr. Charles Good-year in the experimental department, while perfecting his improvements in vulcanized India-rubber and its varied applications.

The necessities of the telegraph business requiring an indestructible insulation, stimulated me to the discovery and perfecting of my compound known as Kerite, which combines the great advantage of durability with perfect insulation.

Kerite insulation is proof against the action of the corrosive elements in the earth, air, and water; and, where it has been practically tested, has proved its superiority to all other insulation.

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It is not injuriously affected by the extremes of heat and cold experienced in our climate, nor by length of exposure in the atmosphere.

It will endure long-continued heat below 200° Fahrenheit, while for short intervals it may be subjected to 250° to 300°; and it may be safely immersed in boiling water.

The action of water, salt or fresh, not only protects all its qualities, but very much improves its insulation.

It is also unchanged by being placed in the ground. Any corrosive elements in the earth do not act upon it; nor is it injured by the roots of plants, which soon destroy gutta-percha.

There are thousands of miles in use throughout the country, by Fire Alarm and other Telegraph Companies of all our principal cities.

It has been used largely in the city of New York, under all conditions and exposures, for the last nine years.

Constant exposure to the sun and atmospheric changes are the severest tests that can be given it in practical use.

EMINENT ELECTRICIANS AND PRACTICAL TELEGRAPHISTS command and recognize the Kerite insulation as superior to all others.

GEORGE B. PRESCOTT, Esq., Electrician of the Western Union Telegraph Company under date of Sept. 25, 1874, says:—"In September, 1867, we placed some of your Kerite wire, unprotected by any covering whatever, in the tunnel under the river in Chicago, and have since continued its use in that exposed situation with the most gratifying results. A portion of the tunnel is very wet, and water saturated with lime constantly drips upon the wires, while in other portions they are kept alternately wet and dry, which is well known to be one of the severest tests that any insulating material of an organic nature can be subjected to; and yet, after five years' exposure, under the above conditions, the Kerite covering shows no signs of decay or deterioration. An insulating covering of India rubber or gutta-percha under a like exposure, would have been destroyed in much less time."

February 12, 1877, he writes further, "This piece of Kerite wire, unprotected by any covering, was in use in the tunnel under the river in Chicago from Sept. 1869 until December, 1876, and shows no signs of decay or deterioration in its insulating qualities."

Prof. MOSES G. FARMER says, "I have used your Kerite as leading wire more or less for four or five years. It stands abuse, changes of temperature, alternate wetting and drying better than any insulator I have tried."

Messrs. GAWWELL & Co., proprietors of the American Fire Alarm and Police Telegraph have used the Kerite wire for ten years. They say, "We have placed it in use in some sixty cities extending from Halifax, Nova Scotia, on the north to New Orleans and San Francisco, on the south and west, embracing every variety of climate, and it has proved itself to be, under all circumstances, the most reliable and indestructible insulator known to us for telegraphic purposes."

Mr. M. A. HANBY says: "I have used it not only in this country, but also in Egypt, where it was subjected without injury to the most severe treatment. . . . I also had the Kerite cable for several months in the Mediterranean Sea, and always found it reliable and unaffected by the ravages of 'teredo.'"

Many other equally favorable and satisfactory commendatory letters are in the possession of the proprietor.

At the Centennial Exhibition at Philadelphia, SIR WILLIAM THOMSON, the eminent electrician and scientist, awarded to the

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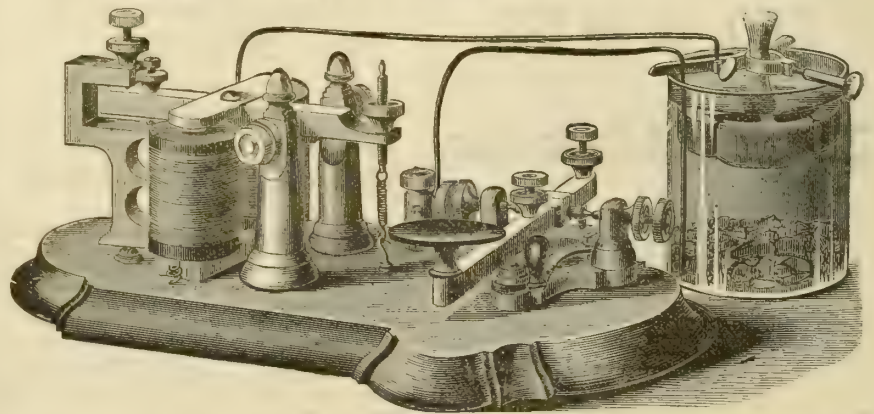
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THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

July 15th, 1879.

Volume X.

Whole No. 130.

The Telegraph Boy.

When I was a lad it was my joy
To deliver messages as a telegraph boy;
I felt very happy, and things were serene,
And I polished the brass on the ticking machine—
I polished it up so brightilee
That now I'm the President of the Compane.

II.

In about six months, by sticking to my work,
I got advanced to be a clerk;
Of pocketing money I never thought,
And copied the duplicates on the report—
I copied the messages so carefulee
That now I'm the President of the Compane.

III.

By staying after hours and practicing at night,
I soon could receive from the instrument right;
My way of receiving wasn't very green,
And few could send so fast upon the machine
I received the press so quickilee
That now I'm the President of the Compane.

IV.

Now, with the officers I was solid as a rock,
So I invested some money in the Company's stock.
In voting away money I was very charee,
And soon I became the Secreteare.
I kept the books so regularee,
That they made me President of the Compane.

V.

Now, electricians, all take my advice,
Before you act once be sure so think twice;
Whenever you work do it with care,
And always be honest, upright, square;
And when you get old you won't be up a tree,
But President of some one or another Compane.
TOMMY TUCKER.

Confirming the Dominion Lease to the American Union.

A special general meeting of the shareholders of the Dominion Telegraph Company was held at Toronto, July 2d, for the purpose of taking into consideration and approving of a lease of the lines of the Dominion Company to the American Union Telegraph Company, and also for authorizing the issue and disposal of the unissued stock of the company. Hon. T. N. Gibbs, President of the company, occupied the chair, and Mr. Roper acted as Secretary. There was a large number of shareholders present.

The President, in opening the proceedings, said that the shareholders were convened for the purpose of considering some important propositions which would be submitted, affecting not only the interests of the company, but also of the general public. It had been held that public companies of that kind received charters for specific purposes, and that they were bound to carry out the terms of those charters. The shareholders would find that no resolution or agreements submitted to-day would be in contravention of that policy, either of the original charter granted to the company, or of any of its amendments. The history of the company was so well known to the shareholders that he would not dwell upon it. The attempts made by various actions to benefit the shareholders were also known to them. The best attempt was an arrangement between the two companies chartered in the Dominion for the purpose of pooling their receipts, but the finale of the negotiations was quite unexpected by the Dominion Company. In good faith they had entered, as they supposed, into an arrangement with

the Montreal Company, whereby both would have been saved an enormous expense in the conduct of business, and the shareholders would thus have been benefited, while at the same time the public would, by the safeguards provided, have been in no way injuriously affected. The negotiations had, however, failed, and he did not think this company need regret the fact, from what had subsequently transpired. In anticipation of new companies being formed in the United States, the Dominion Company obtained amendments to its charter at the last session of Parliament, under which they had been enabled to make arrangements with the American Union Company, which, if approved by the shareholders, would materially enhance the value of the company's property.

In the first instance they were approached with a request to state whether they would be willing to make arrangements with the American Union Company for the purpose of enabling them to connect direct with Buffalo, or rather, stretch two wires over the International Bridge from the Canadian side and over their poles to Detroit, by paying a rate to be agreed upon between the two companies for that service. An arrangement was made by which this company would string the wires and the American company should pay them 20 per cent. on the expenditure. After the arrangement had been completed the American Union wanted to obtain a connection between Oswego, Ogdensburg, and Montreal. The Dominion Company owned a line in the United States, extending between the two points first named, and they obtained it in this way: The Atlantic and Pacific Telegraph Company was under an arrangement to construct a line between the two cities, but on being called upon to carry out the arrangement, pleaded that it was unable to do so. The Dominion Company, in order to meet the demands of the public, undertook to construct the line, acting under the charter of the Atlantic and Pacific. The Dominion Company furnished the funds, built the line and operated it, and worked it under the charter of the Atlantic and Pacific, from which it obtained a lease for 99 years. The question then came up between the American Union and the Dominion Companies as to the manner in which the former could obtain control of this line, belonging to the latter company, and after many interviews and much negotiation, an arrangement was come to to assign the lease which the Dominion Company held over the territory between Oswego and Ogdensburg for the sum of \$23,400, being one hundred and fifty-six miles, at \$150 per mile, for which the cash was paid to this company. Another arrangement was then entered into between this company and the American Union, whereby the latter company was to obtain access to Montreal from Ogdensburg, crossing at Prescott. After those arrangements had been agreed upon, the question came up, in the course of conversation, whether the American Union could make an agreement with this company whereby they could obtain control over the whole of the lines possessed by the Dominion Company, acting under its charter obtained from the Federal Parliament. He need not say that an agreement of this kind naturally occupied a great deal of time, thought, consideration, and correspondence, before it was brought to a point which enabled the Board to call a meeting of shareholders to consider and confirm or reject it. The agreement was to this effect: The American Union Co. will lease the lines of the Dominion Company for a term of ninety-nine years. The conditions are that that Company will guarantee to pay on the bonds issued by this Company, amounting to \$60,000, interest at the rate of six per cent., aggregating \$18,000 per annum. The American Union Company also guarantees the shareholders of the Dominion Company five per cent. interest on their stock, which, when stock is issued to the full extent allowed by law, viz.: \$1,000,000, will amount to \$50,000, and a further sum of \$2,500 per annum for defraying the expenses of the Board in Canada so long as the lease shall last. There was another agreement which had grown out of this one, and it related to the purchase by the American Company of a certain amount of the

Dominion stock. Besides, the American Union, as a guarantee of good faith, agreed to pay the rent quarterly in advance. The intention was that the lease should commence from the 1st of July and extend from that time 99 years, the quarterly payments being \$13,125. The shareholders were aware that the Board were authorized to sell stock up to the amount of \$850,000 upon the best terms they could obtain. Sales had, in no instances been made below 80. When they had issued stock to the amount of \$711,000 the Board found it was not possible to float more at that figure and preferred to borrow such money as they required to complete all their extensions. The American Union Company inquired if the Dominion Company had any stock remaining unissued; they replied in the affirmative, and \$150,000 of the stock was taken by the American Union Company at 80 cents on the dollar. (Applause.) Mr. Jay Gould, the leading spirit in the new American company, wished to obtain this stock at 70, it being then quoted at about 60. The Board were, however, able to show Mr. Gould that the company possessed a valuable property, that it had been acquired after many years of labor, that the lines extended not only throughout Canada, but it also had communication through the Direct Cable Company with the rest of the world. The Board had no doubt whatever of *bona fides* of the gentlemen with whom they were dealing, first, because they had given them a check for \$230,400, to be appropriated in the manner indicated as soon as the arrangement was approved by the shareholders; and secondly, because as a further evidence of their intention to carry out the agreement proposed they had forwarded a check for one quarter's rent in advance. In conclusion, the President dwelt on the commercial standing of the promoters of the American Union, and expressed his conviction that the agreement, if confirmed by the shareholders, would enhance the value of the property of the Dominion Company, and render its operations not only much more extensive, but also increase their efficiency.

The agreement was then read by Mr. Hector Cameron.

Mr. Mitchell Macdonald—Is there any provision in the lease to terminate it by mutual consent?

Mr. Cameron said there was no provision for terminating it in any other way than by mutual consent.

A Shareholder—How long does it run?

Mr. Cameron—For ninety-nine years, and the American Company under it pays \$52,000 a year, or, in case of the American Company making any arrangement for pooling the receipts with another telegraph company in Canada, the payment is \$10,000 a year more.

Another Shareholder—Then this \$52,000 will pay the existing shareholders 5 per cent?

Mr. Cameron—Yes, and leave \$2,500 for the expenses of the Board, for their stewardship of affairs of the Dominion Telegraph Company.

Mr. Macdonald said it had been circulated about that the American Union Company was got up merely as a stock jobbing concern.

Mr. Cameron said he could take no cognizance of such a report, and that so far as he was concerned, he was only attending to the legal portion of the transaction.

Mr. Macdonald thought it was important to know whether the company was genuine or not, or whether there was any likelihood of it taking the Dominion Telegraph Company's property, and, failing to carry out its agreement, to hand that property back in an unimpaired condition.

Mr. Gibbs—It is not possible for it to be handed back in impaired condition. The lessees are bound to keep the line up, and if they are in default for the rent for thirty days, the Dominion Company regain possession of the line.

Mr. Geo. A. Kirkpatrick, M. P.—Do I understand that the lessees have paid this \$230,400?

Mr. Gibbs—Yes, the treasurer had in his possession a check for \$230,400, the value of \$288,000 of the stock. Regarding Mr. Macdonald's statement he could say he knew it had been insinuated that the American Union Company was a stock-jobbing corporation, but the fact was, it was composed of wealthy men, said to be worth their three to five,

ten, and twenty millions of dollars, and an evidence of the genuineness of the undertaking was to be found in the fact that the leasing company had 5,489 miles on railways and other lines constructed, 3,373 miles in course of construction, and under contract, and 2,750 miles under consideration, and expected to be built this year. The men who were connected with the company were reported to be worth each enough to buy up the Dominion Telegraph Company with a twentieth part of their capital, and, so far as he could see, there was not the slightest risk of the agreement not being carried out in perfect good faith. If the directors entertained a doubt on that point they would not have called the shareholders together to ratify their arrangement, and the very best test of the intention of the American Company to carry out its agreement was to be found in the check it had already handed in.

Mr. J. H. Mason—Is there any prospect of the Dominion Company being able to pay 5 per cent without this lease?

Mr. Gibbs said that was a matter for the meeting to consider. A great many changes might take place, ruinous competition might spring up, and many other things might occur to debar the Company from earning its 5 per cent., so that it was impossible for the Directors to say whether, without such an arrangement, the 5 per cent. would be forthcoming.

Mr. Swinyard was quite sure that had it been possible to assure the shareholders more than a 5 per cent. dividend, the present arrangement would have been unnecessary. As a matter of fact, there had been a great falling off in the revenues of both Canadian Companies during the year 1878, and if the depression of trade continued the decrease might be even greater, while the competition between the Montreal and Dominion lines might become more severe. All this had to be considered, and beyond it the shareholders had to remember that if the American Union Company had not the use of the Dominion Company's lines, they could build one of their own, which would put a third competitor into the country, in which case both existing lines would suffer. From that point of view he thought it would be better for the company to accept the present proposition.

Mr. Yates said it was a serious matter and ought to be considered very closely before the Dominion line was given up to a Yankee company, about which no one knew anything. He thought the Directors were very much to blame in not issuing a circular giving the shareholders some information before the meeting took place, in order that the matter might be properly discussed. He happened to know something about what was going to take place. Some weeks ago, being in Buffalo, he made inquiries about Jay Gould and those other people, and he had been told that Mr. Gould owned half the stock of the American Union Company, while Mr. D. H. Bates and Mr. Charles Tinker, two practical telegraph men (hear, hear), were in connection with Mr. Gould, and were not worth a cent. Now, the question for the Dominion Company's shareholders to consider, was whether they should sell their property, body and bone, to men like these, and deprive themselves of a possibility of getting a larger dividend than 5 per cent. He, for one, did not intend to submit to this, his view being that another endeavor should have been made to make some arrangements with the Montreal Company. (Cries of "No, no.")

A Shareholder—That has been tried before.

Mr. Yates thought it would have been better to have tried it again than to have handed over the line to what he characterized as a bogus company on the other side of the border, the actual existence of which he had found it very difficult to ascertain.

Mr. F. Eccles—But now you have evidence of its existence by the quarter of a million of money already handed over to the Dominion Company.

Mr. Yates said he still thought the Company could have done better by keeping their own line and realizing the 8 or 9 per cent., which would be realized by pooling with the Montreal Company.

Hon. Frank Smith, a Director, said the matter

had been very seriously considered by the Board, of which he was a member, and the unanimous opinion of the Board was that the proposed arrangement was an excellent bargain for the Company. Endeavors had been made to make arrangements in other quarters, but the Board, who thought they were dealing with men who would do what they said, was mistaken. Now, however, they had a sure thing, and the shareholders could not do better than accept it.

Mr. Swinyard said he would just remark that the meeting was called in the interests of the Dominion Telegraph Company, and that those present, he presumed, knew no other interest. Some gentlemen present, however, were shareholders in the Montreal Company as well as in the Dominion. Mr. Yates, he believed, had the good fortune to be a shareholder in the Montreal Company, and he thought it was only right it should be known that while his interest in that Company was \$40,000, his interest in the Dominion Company was only \$2,350.

Mr. Yates said that he personally took the same interest in the Dominion as he did in the Montreal, and he was in favor of the pooling arrangement previously proposed as between the two Canadian companies.

Mr. Swinyard—Have you read the correspondence that took place on the subject?

Mr. Yates—I don't want to see it. (Laughter.)

Mr. Bain thought the arrangement suggested by the Board was an excellent one, but he thought it would be well to have a proviso in the agreement, whereby the Dominion Company would be able to withdraw from the arrangement on six months' notice. (Cries of "No, no.")

Mr. Swinyard—Ample protection was provided, inasmuch as the Company could withdraw at any time, if the American Union Company failed to carry out its agreement.

Mr. Bain said that was all very well, but better times were to be looked for, and then the company as landlord should be able to resume possession of its property, if it saw fit to do so.

Mr. Kirkpatrick said no sensible company would accept an agreement whereby it was compelled to work the line as long as it paid only 5 per cent., and to give it up as soon as it paid over 5 per cent. The agreement as proposed was, in his opinion, an excellent one, and it would be better to accept in perpetuity the 5 per cent., and to be relieved of all anxiety, than to be compelled to work for the line to pay a possible 8 or 9 per cent., as hoped for by one gentleman. The rejection of the proposal would be most unwise, and would be a great hardship to the poorer shareholders whose stock would immediately depreciate in value.

Col. Boulton moved "that the unissued stock of the company, up to the authorized capital of one million, be issued on the terms and at the rate specified in the agreement dated June 12th, 1879, made between this company, the American Union Telegraph Company, and Jay Gould, the terms of which agreement as to such stock are hereby approved of."

Rev. H. Christopherson, in rising to second the motion, condemned the ungenerous reflections which had been made on the American Union Company because its shareholders were Americans, and stated that many companies and many business men in the United States stood high in their characters for honor and integrity. In this case he was satisfied, and heartily approved of the arrangement.

Mr. Wm. Macdougall, a lawyer, who was present in the interest of the Montreal Telegraph Co., ten shares of Dominion stock, it is said, having been transferred to him that morning to constitute him a technical stockholder, doubted whether the Dominion Company could legally enter into a lease without laying itself open to legal proceedings by the A. & P. and the Vermont Telegraph Companies. He added, very significantly, that his opinion was that some of the shares in the Montreal Telegraph Company having changed hands, that company would agree to favorable terms now; indeed, more favorable terms than were made in New York.

Mr. Yates rose and said that as a shareholder in the Montreal Company he could say that the shareholders in that company were willing to enter into negotiations with the Dominion Company, to offer something different to that which was offered before, and to guarantee something better than the American Company offered, and moved "that it is inexpedient to confirm for the present the proposed lease;" "that a committee of shareholders be appointed to consider the whole question."

Mr. Gibbs said the Montreal Company had hoped to force the Dominion Company to accept the terms it might dictate, but now that the company saw the position that was secured by the Dominion Company, it was ready to make advances to it, which advances he (Mr. Gibbs), for one, despised. The efforts of the Montreal Company, through Mr. Yates, only served to show the shareholders of this company how necessary it was to accept the arrangements proposed with the American Union Company, whose object was to compete with the Western Union Company—a company which has boasted that it could buy out all competition, and which had succeeded so well, by having a monopoly, as to be able to distribute among its shareholders a short time ago no less a sum than six millions of dollars.

Mr. Cameron said, regarding the legal point raised by Mr. Macdougall, that there was no danger of the company being charged with breach of arrangement with the Atlantic & Pacific, the Vermont or Direct Cable companies, inasmuch as those companies had themselves broken the contracts which they had with the Dominion Company.

After some further discussion the resolution of Col. Boulton was put and carried unanimously. Mr. Kirkpatrick then moved that the lease of the lines and telegraph system of the Dominion Company to the American Union Telegraph Company, bearing date 12th June, 1879, be, and the same is, hereby approved of and sanctioned. Mr. Cassels seconded the motion, and it was carried unanimously.

The Newspaper of To-day.

Mr. Whitelaw Reid, editor of the New York Tribune, delivered an address before the New York Press Association at Rochester last week, in which he contrasted the expense of newspapers to-day compared with what they cost fifteen or twenty years ago. Discussing the question, whether the ante-war prices of newspapers will again be adopted, he says: A short answer to the inquiring growler may be readily given: We will come down to ante-war prices whenever you are ready to accept an ante-war newspaper. What that was few really remember. Looking over the files of the journal with which I am most familiar I have found that on the busiest days, and under the crowning excitements that preceded the rebellion, it was in the habit of receiving an average of between one and two columns of news by telegraph from all quarters, exclusive only of the reports of Congressional proceedings. News from Europe all came by steamer. News from all the considerable cities of our own continent came mainly by post, when it came at all. Clippings from the exchanges were the chief source of supply. Even a great national nominating convention called for only something like two columns of telegraphing, and this was so spread out by profuse paragraphs and other cheap typographical tricks as to occupy double the space we should give it now. To-day your foreign news comes exclusively by the cable; your domestic news, too, comes exclusively by telegraph. A news letter from Chicago or St. Louis is almost unheard of, for the simple reason that the news has been told by telegraph before the letter could start. For the two columns in 1859, from all quarters by telegraph, we now have page after page printed, and sometimes as much more remorselessly thrown into the waste basket—sent by telegraph and paid for, but not used, merely because the columns will not contain it.

The public have been educated up to what they now receive, and would no more be put off with

the newspaper of 1860 than they would tolerate again the slow mails, or the antiquated railroad accommodations of 1860.

But figures are, after all, more convincing than mere description. I have selected as the year affording the fairest data for a comparison with the present times, the year before the election which precipitated the civil war, and, going back again to the records of the metropolitan newspaper with which I am most familiar, have extracted a few entries which tell the whole story.

In 1859 the total outlay for news, editing, type-setting, printing, and publishing, including the accounts of the editorial department, composing room, press room, publisher's department, correspondence, and telegraph, was \$130,198. On the 13th of January, 1879, the outlay for the past year in the same departments was reported at \$377,510.

Yet this is, with many of the accounts subdivided, so that a part of the outlay is charged under other heads, with all the economies of the period since the panic, in full force; with expenses at the lowest point in nearly every department they have touched for several years; with the cost of telegraphing from Washington lower than it has ever been before, and out of sight of any price any telegraph company has ever named—a cost in fact of less than two mills per word as against the old rate of from one and a half cents per word upward; with composition almost one-third lower than under the old spoilation system of the Printers' Union, and with salaries in every department made in some measure to correspond with the tendencies of the times.

Let us take another year for a fairer comparison. Against the \$11,679 telegraphic expenses of 1859, set the \$51,728.88 in 1874; against the composing room bills in 1859, amounting to \$42,256, set those for 1874, amounting to \$125,883.28. And finally, contrast the total expenses of the editorial department, including correspondence, in 1859, \$43,125, with the sum of \$188,829.45 spent for the same accounts in 1874.

From an old salary-book containing the weekly payments from 1848 to 1859, I extract from the first page some items that have now a curious sound. The first entry is Mr. Sinclair, bookkeeper, \$15; the next Mr. Strebeigh, assistant bookkeeper, \$10. Then follow Mr. Dana, assistant editor, \$14; Mr. Taylor, ditto, \$12; Mr. Cleveland, ditto, \$10; Mr. Snow, money reporter, \$12; Mr. Davies, in the courts, \$4; Mr. Towndrow, police reports, \$7; Mr. Augustus Maverick, proof-reader, \$6; Mr. Gibson, ship news and importations, \$14; Mr. March, Washington correspondent, \$20; Mr. Robinson, ditto, \$15. Now skip to the last page of this same book containing the payments for the week ending on the 31st of December, 1859. Very largely the same men made the paper. It had grown, as the record on the same page shows, from the weekly use of 168½ reams for the daily, to the use of 494 reams. Below these items stood the personal list, more than doubled now in length, but with the same leading names. Reading down it now, we pick out Mr. Sinclair, bookkeeper, \$48; Mr. Strebeigh, assistant ditto, \$30; Mr. Dana, assistant editor, \$48; Mr. Ripley, ditto, \$25; Mr. Gay, ditto, \$20; Mr. Towndrow, \$14; Mr. Snow, money reporter, \$30; Mr. Gibson, ship news and importations, \$28; the Washington correspondents, \$57.50. On the books, a little further back, George William Curtis figured as city editor at \$20 per week, and Henry J. Raymond, as second on the paper, rose gradually from \$8 to \$20. Bayard Taylor was credited \$5 apiece for his California letters, but on his return Mr. Greeley moved and carried an advance to \$10, on the ground that "they had made a hit." H. G.'s own name appears regularly on the lists of those days at \$50 per week. He afterward had it cut down to \$40; and there was never a subsequent advance which he did not resist. Once, indeed, there is an entry to the effect that "Mr. Greeley protested at some length against the advance in his salary, and gave formal notice that he did not intend to earn any more than he was now receiving." For ten or a dozen years past it has been my duty to fix the salaries on this same book. I have found plenty of gentlemen who might truth-

fully enough have given this last notice, but not another who made the preliminary protest!

Mr. Reid does not believe that the press is as bad as it is represented to be by those who have felt its lash. He says: There is not an editor in New York who does not know the fortune that awaits the man there who is willing to make a daily paper as disreputable and vile as a hundred and fifty thousand readers would be willing to buy. It is the newspaper opportunity of the time—the only great opportunity that has come since the concentration of capital and mechanical facilities gave the monopoly of the present field to existing journals. Several of these might take it; the editor of every one of them knows that he is making a better paper than his constituency would like, and that he might add half to his circulation by making it worse; every one of them knows that a less scrupulous rival may come to do what he refuses. It is with an ill grace that theoretical reformers reproach these men for lowering the newspaper standard and making journalism a curse instead of a blessing. Our people like well enough to see a hearty, knock-down blow given; but they hate a perpetual nagging. A daily diet of snarl and sneer is not to their taste. They like to have their paper positive and frank: they like to feel that for a good cause and at the right time it can make a hard fight; but they prefer that its natural attitude should be kindly (critical enough it is sure to be anyway), and that its prevailing tone should be one of good humor. They don't want to rise from its perusal, every morning, with a bad taste in their mouth. The editor who commands their respect and persuades their judgment must keep his temper, must keep out of petty personal controversies, must be seen to have higher motives for attacking than spite, and higher motives for praise than mutual admiration. In a word, the spirit that habitually controls the columns must be clearly recognizable as one of justice and good will.

Fire Alarm Telegraphs.

The application of electricity to the instantaneous communication of alarms of fire was suggested by Dr. Wm. F. Channing, of Boston, as early as 1854, and the first system of fire alarm telegraph—the joint invention of Dr. Channing and Moses G. Farmer—was erected at Boston in 1851–2. Many important improvements have been made since then, from time to time, and the system has grown until now there are few important cities or towns in the United States or Canada that have not a fire alarm telegraph.

The Gamewell Fire Alarm Telegraph Company has probably done more toward introducing the system in this country than all other companies or persons combined. The origin of the company dates back to 1855, in which year it purchased the patents of Channing & Farmer. Since then it has secured every invention in this line that was considered an improvement, and now claims to have the most complete, perfect, and reliable system of fire alarm telegraph in the world. In proof of this the company points to the fact that over one hundred cities now use the Gamewell system, while the number is constantly increasing, and that in no single instance has its use been abandoned or even temporarily given up.

Originally the signals were always transmitted to a central office, and from there re-transmitted to the tower bells and engine houses. While this system is still in use in New York and a few of the larger cities, it has been superseded in smaller places by the automatic system, by which alarms are sent direct to the fire department, and the cost of maintaining which is but a small percentage of the central office system.

The signal boxes, which are termed non-interference automatic, are of cast iron, cottage-shaped, and contain clock-work with spring or weight motors so arranged as to open and close an electric circuit a definite number of times at certain intervals, indicating, by the number of blows upon the alarm bells, and the intervals between, the exact location or number of the signal mechanism in action. This clock-work, is inclosed in a dust-tight, cast-iron, round box, which is placed in one

corner of a square iron case having a hinged door, with lock and key, under the exclusive control of such city officers as may be authorized or required to give special signals. This case contains, in addition to the round box, a lightning arrester, also a telegraph key and call-bell for engineers or police signals; thus every signal station may be used as a telegraph office for any city purposes. A small starting lever, spread into a thumb-piece on the outside, passes through the door of the case and projects through a closely fitting aperture into the round box, where its end rests immediately under the detent lever of the signal mechanism. Lifting the detent lever by pressing the thumb-piece of the starting lever lightly downward once, sets the signal mechanism, and through it the whole system of fire telegraph, in operation. The outside boxes are locked with combination locks, the keys of which are placed in the hands of the police and one or more responsible property-holders in the immediate vicinity of each box. It will thus be seen that the mechanism is secured inside of the inner of three distinct iron boxes, and that opening the outer door reveals nothing but a square iron case with a thumb-piece projecting from its door. So perfect is this mechanism, that it is utterly impossible for any other than the correct signals to be transmitted, and when once started it can in no way be interfered with until it has performed its entire work.

When a fire breaks out in a city where the automatic system is in use, the person who first discovers it runs to the nearest signal box, and obtaining a key, which is easily accessible, opens the outer door of the box and pulls down the brass hook, which is plainly in sight, once only, and lets go. Before he can turn his back upon the box its clock-work is in motion, and an alarm is being sounded upon the little bells in every signal box, the gongs in the engine houses, and upon the large tower bells. Suppose the hook of box twenty-one has been pulled, the blows upon the bells and gongs will be given thus: 1–1 (two blows), then a pause of five or six seconds, and then 1, making 21, and this is repeated four times. If this is not considered sufficient, another pull of the hook will give the alarm four times more. Now the localities of all the boxes being well understood by the firemen, they run directly to that box from which the alarm originates, and no time is lost in hunting for the fire.

The cost of introducing the system is scarcely anything in comparison with the amount saved in consequence of the arrival of the fire department so much earlier at fires. In the 1860 report of the Superintendent of Fire Telegraphs of St. Louis a comparison is given of the two years' working of the department prior to the establishment of the electric alarm, with the two subsequent ones, showing the following results: "From April, 1856, to April, 1858, there were 568 alarms, of which 175, or nearly one-third, were false. The losses by fire during the same period show greatly in favor of the last two years. From 1856 to 1858 the amount of losses was \$1,803,315, against \$710,404 from 1858 to 1860—showing a diminution of \$1,097,911, or a sum equal to \$548,955 annually; and on the principle that prevention is better than cure, we claim for the fire alarm telegraph a large share of the credit in saving that amount."

A similar report (1866) from Montreal gives, before the introduction, eighty-five fires during the year, an aggregated loss of \$140,088, and since the introduction ninety-nine fires, with an aggregate loss of only \$35,428. The price of the signal boxes, etc., of the Gamewell system is now only about one-half what it was a few years ago, and at the present price it does not seem that any city can afford to be without the system, which is now in practical operation among other places in New York City, Boston, Philadelphia, Chicago, San Francisco, Cincinnati, St. Louis, New Orleans, Washington, Buffalo, Baltimore, Detroit, Albany, Indianapolis.

Fifteen years ago there were only about 2,000 miles of submarine cable in the world. To-day there are 66,000, representing a capital of \$125,000,000, or about one-third of the cost of all the land line.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY.

W. J. JOHNSTON, - - - Publisher.

July 15th, 1879.

WESTERN UNION stock is quoted at 90 $\frac{3}{4}$; A. & P. at 3 $\frac{1}{4}$, and A. D. T. at 60 $\frac{3}{4}$.

Some of the ambitious people would do well to bear in mind that speed without correctness is apt to give one a reputation for ability of a rather doubtful character.

THE British Government is about to introduce a sixpenny (12 $\frac{1}{2}$ c.) rate for telegrams of twenty words within the London radius. This will, it is promised, ultimately be extended to the country.

THE Jeannette, which recently sailed from San Francisco, bound to the Paleocrystic Sea, through Behring's Strait, had on board an electric light equipment from Menlo Park. Having devised and constructed a superior electric generator of his own, Mr. Edison gave his Gramme generator to Mr. Bennett, with full equipments for a strong electric light through the long Arctic nights. The generator was to be propelled by the engine of the Jeannette.

READERS OF THE OPERATOR should bear in mind that we are always happy to purchase for them anything that they may require from New York or any of the larger cities, whether in the line of telegraphic or electrical goods or not. Telegraphic apparatus of any description or in any quantity will be promptly forwarded at very lowest manufacturers' prices. No charge is made for services, and a higher price is never charged than the goods can be had for direct, while we can, not unfrequently, by obtaining a commission, furnish them below regular price.

WE give in this issue a lengthy, but interesting, report of the special meeting of the shareholders of the Dominion Telegraph Company, held at Toronto, July 2d, for the purpose of confirming the lease of the Dominion lines to the new American Union Telegraph Company. As will be seen from the report, the lease was ratified with scarcely a dissenting voice, although representatives of the Montreal Telegraph Company were present to defeat the scheme.

It will be remembered that some time ago negotiations looking to the pooling of the receipts of the Montreal and Dominion companies fell through, because the Montreal Company thought it could force the Dominion Company to accept about any terms it chose to offer. Now that the Dominion has concluded a lease with the American Union Company, the Montreal feels very sick, and offered to reopen negotiations, promising even better terms than those offered by the American Union Company. This proposition, however, the Dominion shareholders refused to accede to. Their former experience with the Montreal Company had probably not impressed them very favorably.

The Telegraphic Outlook.

We think it is not too much to say—and we do so with much pleasure—that the prospects of operators are brighter at the present moment than they have been at any time in several years. The new American Union Telegraph Company, now that it has secured the entire system of lines of the Dominion Telegraph Company, as well as of several smaller concerns, in addition to many important railroad wires, and the new lines it is building, cannot fail to give employment to a large number of telegraphers. Many of these will be drawn from the ranks of the Western Union at increased salaries, thus creating a competition for telegraphic labor, and leaving vacancies to be filled by the at present unemployed. Even the "Rapid" Company, although many of its employes will be girls and young men at small salaries, will furnish employment to not a few first-class operators.

Mr. Gerritt Smith, one of the ablest electricians in the country, and, it is said, next in the line of promotion for the position of chief electrician of the Western Union, has gone over to the "Rapid," as has also Mr. Theodore F. Taylor. And we are assured that the officers of the "Rapid" Company have their eye on a number of men now in the employ of the Western Union and Atlantic & Pacific in this and other cities, to whom when the time comes, they intend offering managerships at good salaries.

While it is not, perhaps, best to reckon too implicitly upon our chickens before they are actually hatched, one cannot repress a feeling of pleasure that at last the giant monopoly is to have a vigorous rivalry; that its miserable subterfuges of sliding scales and gradations will be a thing of the past, and that now it will be compelled to treat its employes as it should; for, just so soon as it finds that there is no alternative, the Western Union will pay good salaries, and not before.

We rejoice in this solution of the labor question, so far as it relates to telegraphy. There is ample room for two or three telegraph companies in this country, and the more there are, the better it will be for operators—the twaddle of the official organ as to the decrease in profits from competition coming out of the salaries of employes to the contrary notwithstanding. The larger number of companies there are, the larger will be the volume of business, and the more employment there will be for operators; while the competition will benefit employes in the way of increasing salaries, and the public by a reduction of rates.

If the number of messages passing through the main office of the Western Union Telegraph Company in this city be a fair criterion of the condition of trade—and it is always considered to be—then general business has very perceptibly improved. Everywhere we hear that indications of a revival of business, and the long looked-for better times are on the increase. Failures during the past six months have been very few compared with recent previous years, and prices have again an upward tendency. It is found, too, that the wheat crop in Europe is a partial failure, and that many European countries must import large quantities of grain from this country. Of course this will have the effect of adding to our coffers much of the wealth of Europe, and telegraphy cannot fail to share in the impetus thus given to general business. Altogether, unless

some unforeseen disaster overtakes us, the outlook for telegraphers is not by any means so black as it has been, for these many years.

Platinum and the Electric Light.

The high price of platinum is one of the most formidable obstacles that Mr. Edison has had to contend with in developing the electric light. It is said, however, that platinum is more plentiful in this country—in the mining districts of the Pacific coast—than was supposed, and the price, may, therefore, very materially decrease in a short time. In the meantime the great cost of platinum will probably interfere for a time with the introduction of the electric light for domestic purposes. The part of the electric lamp which is rendered incandescent by resistance to the electric current is made of a spiral ribbon of platinum, and no other metal has been found which can be substituted for it. It has been found possible to alloy the platinum with iridium, which is also hard and infusible at a high temperature, but the cost is still so great (some \$10 or \$12 for each burner) as to place it far above common use. Platinum is the heaviest and most nearly infusible of metals. Cast-iron melts at 2,000°, gold melts at 2,282°, and the best wrought-iron passes into a liquid state at something like 3,200°; but platinum, with its expensive alloys, is the only metal yet discovered capable of enduring the fervent incandescence of the electric current. It seems obvious that (leaving all other difficulties out of the question), the electric light cannot be generally introduced for domestic use till the individual lamps can be set up for a fraction of a dollar apiece, instead of costing \$10. If the standard furnishing every electric jet were worth \$10, burglars would certainly thrive for a time, and the number of practicable lights would diminish with great rapidity. It would be about as attractive to pilferers as a gold eagle tied to every gas-jet with a string. Mr. Edison's new problem, then, is to make platinum cheap. As it will scarcely grow cheaper by the creation of a new and almost inexhaustible demand for it, the only hope of the inventor is to discover some great bed or mine of it in placer or mountain. This white precious metal has never been found in large veins, and when Agassiz picked up a lump as large as a pigeon's egg in the Andes, it was thought sufficiently remarkable to be placed on exhibition in a European museum. To find platinum in large deposits is just what the world has hitherto failed to do, but as Mr. Edison has accomplished several things that the most ingenious men had not succeeded in doing before, there is no saying precisely what the hundred miners whom he has set to work may or may not achieve in the effort to reduce the cost of platinum from the price of gold to that of cast-iron.

Seventh Annual Cincinnati Exposition.

In the seventh Cincinnati Industrial Exposition, which will be open for the reception of goods from August 18th to September 19th, and open to the public from September 10th to October 11th, Class No. 60, Department K, is devoted to telegraphic apparatus. There is a gold medal for the best telephone (in operation), and another for the best historical display of electrical apparatus. Silver medals will also be awarded for the best

system for automatic telegraphy (in operation); best system for fire alarm (in operation); best system for transmission of musical sounds by electricity; best system for automatic fire alarm telegraph (in operation); best system for telegraphic railway signal; best fire alarm signal box; best display of instruments and supplies; best instrument for quotations; best telegraph set (key, sounder, and relay); best magnetic watchman's clock; best printing instrument for private line; best dial instrument for private line; best phonograph; best telephone. Bronze medals will be given for the best galvanometer; best telegraph battery; best electric hotel annunciator; best box relay, key attached; best pocket relay magnet; best Morse register; best single cut-out; best switch for from four to twenty wires; best coil wire; best sample office and magnet wire; best submarine cable; best air cable; best amateur instrument; best insulator; best electric gas lighting apparatus; best burglar alarm; best electric clock.

Progress of the Electric Light.

It is announced by cable from England that Mr. Edison's London patent agents have filed the final specification for the third and most important English patent on the subject of the electric light, which relates to an electric lamp or burner of platinum, or of an alloy of platinum. Mr. Edison is still busily engaged on the electric light, and expresses himself as much pleased with his progress. When told that the public is disappointed at the delay in the development of the new illuminator, he replies that he never promised to complete it in any given time, and thinks the public is rather unreasonable. Mr. Edison has expended a vast sum of money in experimenting with the electric light. The wherewithal for these experiments, however, is furnished by "The Edison Electric Light Company," whose incorporation, some months ago, we chronicled. In a recent investigation into the progress of electric lighting by some visitors, Mr. Edison said that he had demonstrated to himself and to his friends that he had accomplished all that he ever expected to in the matter.

"I have supplied," he said, "six electric lights from one horse-power. These cost me just about one-third as much as three similar gas-burners will cost gas manufacturers. I claim that this solves the question." Mr. Edison then explained the generator to the company, and said he had "got it pretty near right," but there was a good deal to be done yet in computing and establishing proportions so as to construct all parts of the complicated machinery so correctly that the work need not be done over again. An intimate friend of the Menlo Park inventor informs us that although Mr. Edison's annual income from his inventions amounts to an almost fabulous sum, he expends it all in experimenting, and is really a poor man. Not unfrequently, the friend adds, Mr. Edison finds it as inconvenient to pay his ordinary grocery and butcher bills as do the smallest-salaried of operators.

Among others who are withdrawing from the straight ticket of telegraphy, and joining the telephonic ranks we note Mr. T. D. Lockwood, at present inspector and electrical engineer of the American District Telegraph Company, of this city, who is about to assume a more important

position as traveling electrician of the National Bell Telephone Company, with headquarters at Boston. Mr. Lockwood arrived in New York about four years ago, and found employment with the Automatic Signal Telegraphic Company. Since then he has successfully filled increasingly important positions with the Gold and Stock and American District Telegraph Companies. Within the last six months he has invented and patented burglar alarm on the principle of the Wheatstone Bridge, which is considered by experts to be the most sensitive and at the same time the most reliable alarm in the market. The National Bell Telephone Company is showing great discrimination in the selection of its employes, preferring to pay high salaries for valuable men, than starvation pittance for the graduates of plug factories. The company is successfully establishing, exchanges in all the important cities of the Union, and, by means of local but dependent companies, proposes to cover the smallest centres of population, and has already upward of sixty cities and towns enjoying telephonic facilities afforded by its enterprise. The General Manager of the Company is Mr. Theodore N. Vail, who is one of the Morristown family, so intimately connected with Prof. Morse in his early telegraphic researches, and who resigned a lucrative position in the postal department at Washington in order to assume the general management of this Company. Mr. Vail is a perfect gentleman in the fullest acceptance of the term, and to his excellent business ability the Company owes much of its success.

Edison's Wall Speaker.

In response to an invitation from Mr. Edison, a *Tribune* reporter went to Menlo Park, New Jersey, yesterday afternoon, to see the new electro-chemical telephone. At the laboratory Mr. Edison's chief assistant, Edward H. Johnson, was found surrounded by a large number of lately finished telephones of an unusual form, evidently preparing them for a journey. "These are the first we have finished," he exclaimed, "and I start with these fifty for London to-morrow, where I shall establish a telephonic exchange similar to the one now making such progress in New York. The fact is," he continued, "the telephones at present in use are too feeble for the peculiar electrical condition of Europe, so that they are used very little across the ocean, except as toys. I expect to put this mouthpiece at work," he concluded, picking up one of the queer iron boxes and exhibiting it.

The peculiarity of this telephone as compared with any others is, that it is not necessary to put the receiver to the ear in order to hear its message; indeed, it is fastened immovably to the wall. When the little crank is turned the voice of the distant speaker is distinctly heard all over a large room or a hall. The room used for the purpose at Menlo Park was small, but the voice was strong and loud, and the words of the speaker (who was stationed at the other end of the grounds) were distinctly heard, even when the listener walked thirty or forty feet away from the receiver. The articulation was equally clear when the speaker was reciting some familiar trifle like "Mary had a little lamb," which seems to be a favorite at Menlo, and when he read from some unknown book an English criticism on America and Americans. Indeed, the experiment at Menlo yesterday demonstrated that this telephone will deliver in a loud and distinct voice, so that the speaker can be heard by everybody over a large room. It is said to operate perfectly at least for fifty miles. Moreover, the peculiarities of the voice are transmitted, so that friends readily recognize each other's voices

Themes for the Thoughtful.

Never indulge in anything inconsistent with true politeness.

It is a weak and vicious people who cast the blame on fate.

A weak mind sinks under prosperity as well as under adversity.

When our hatred is violent it sinks us even beneath those we hate.

Those who trample on the helpless are disposed to cringe to the powerful.

The sunshine of life is made up of very few beams that are bright all the time.

A sweet temper is to the household what sunshine is to trees and flowers.

A warm, kind word is a wonderful inspiration or comforting balm to a sensitive heart.

Adversity does not take from us true friends; it only dispels those who pretend to be such.

The flower which we do not pluck is the only one which never loses its beauty or its fragrance.

He who shows kindness toward animals will display the same characteristics to his fellow-men.

Read not to contradict and refute, nor to believe and take for granted; but to weigh and consider.

"We, ignorant of ourselves, Beg often our own harms, which the wise powers Deny us for our good."

The grandest of heroic deeds are those which are performed within four walls, and in domestic privacy.

The pebbles in our path weary us and make us footsore more than the rocks, which require only a bold effort to surmount.

As the soundest health is less perceived than the lightest malady, so the highest joy touches us less than the smallest sorrow.

No man can be brave who considers pain to be the greatest evil of life; nor temperate who considers pleasures to be the highest good.

Worldly friendship is like our shadow; while we walk in sunshine it sticks close to us, but the moment we enter the shade it deserts us.

Work is a necessity in one way or another to all of us. Overwork is of our own making, and, like all self-imposed burdens, is beyond our strength.

Kindness is stowed away in the heart like rose-leaves in a drawer, to sweeten every object around them, and to bring hope to the weary hearted.

Laziness grows on people; it begins in cobwebs and ends in chains. The more business a man has to do, the more he is able to accomplish, for he learns to economize his time.

Be a bold, brave, true honest man. If you know a thing is right, do it. If you have a solemn conviction, dare to utter it in the fear of God, regardless of the wrath of man.

The footprints of a barbarian in the sand prove the presence of a man to that same atheist who denies the existence of a God of whose hand the whole universe bears the impress.

Never permit the most resolute curiosity, or the most friendly concern, to find the lowest depth of your character. Gain the reputation for reserve power by reserving it.

There are moments when by some strange impulse we contradict our past selves—fatal moments when a fit of passion, like a lava stream, lays low the work of half our lives.

Some people possess good qualities which are very serviceable to others, but useless to themselves, like the sun dial on the front of a house to inform the neighbors and passengers.

The sweetest, the most clinging affection is often shaken by the slightest breath of unkindness, as the delicate rings and tendrils of the vine are agitated by the faintest air that blows in summer.

Don't let us rejoice in punishment, even when the hand of God alone inflicts it. The best of us are but poor wretches, just saved from shipwreck. Can we feel anything but awe and pity when we see a fellow-passenger swallowed up by the waves?

A Vigorous Arraignment of the Grading Policy.

I have just been contemplating the reductions in pay, and increase in labor for operators; and the augmentation of income for the stockholders of the Western Union Company, and am in no slight degree appalled at the state of affairs that exists to-day accomplished by a stealthy reduction of salaries from time to time.

By a rough estimate of the reductions within a comparatively short period, I find that the operators—estimating the total number at 12,000, which is low—are sustaining an annual loss of \$2,600,000. I say loss, because that is certainly what it is. If five years ago I was in receipt of \$100 a month, and to-day am only able to command \$75, having in the meantime become even more valuable to the company in ability, experience, etc., I logically conclude that I am sustaining a dead loss of \$25 a month, or \$300 a year, which is a simple fact. I put it at \$100 above, but we all know that first-class services were at that time worth more than that.

To produce such a condition of things one would at first sight imagine that misfortune had overtaken the science of telegraphy as a factor in the commercial and social progress of civilization. One would suppose that by sea and by land disasters had come thick and fast upon the endeavors of those who are engaged in the very cheerful occupation of becoming millionaires in the telegraph enterprises at the expense of the public and the Company's employees. On the contrary, however, there is no stock in the country to-day more valuable than telegraph stock, while every day the business and receipts are increasing in volume, and it would seem that the Company intends that salaries shall keep pace on the back track. Four millions net earnings by the last quarterly statement of the Western Union, if I remember right, and a stock dividend of 7 per cent. Glory, hallelulah!

Now, as for me and my house, personally, individually, and severally, I am in a very rebellious mood. I am forced to face the most unpalatable fact that as a waiter, a barber, a shoemaker, a dry goods clerk, a carpenter, yea, as a hod carrier, I would have had a far better chance to become independent in the world than as a telegraph operator. Starting out in any of the above trades, I would, with a little resolution, a good constitution, and an average share of brains, in time have become a proprietor. No matter on how small a scale, or in how humble a line, I would have had it all in my own power to become the head of the house in any of these lines, and would have stood a common chance to make it a great house. On the other hand, however, I look upon myself as having started in a—what shall I call it?—that has nothing in the world to offer me for a future but a dead failure.

Fifteen years ago I started in this business with all the ardor and impetuosity of a sanguine, light-hearted boy, fired with zeal, and enamored of the fascinating romance that hovered over the mystic precincts of a telegraph office, and with buoyant hopes and rose-colored dreams of the future. What a good job it would have been for me if some one had whispered in my ear then, that I was verily following the example of the Biblical prodigal, and exchanging my birthright for a mess of pottage, for to-day I am sick and disgusted with my bargain.

To enable me to do what has been required of me at all times, my employers have insisted on what, in any other line of business, would undoubtedly lead to success of a far higher type than can ever be expected in the employ of a telegraph company. They have required a very fair education, first-class penmanship, a rather high grade of business intelligence, and keen watchfulness at all times to detect and prevent errors and save them from loss. Now, this, I claim, necessitates a very high degree of versatile business talents, especially when we consider the immensity of interests intrusted to our care, and the judicious skill requisite to perform the duties.

At first, as I became more skillful, my salary increased, until I received what we will call a fair

remuneration for first-class work—say, \$100 to \$110 a month. As the company grew in extent and power, it increased in avarice. Like a great devilfish, its tentacles extend from north to south and from east to west of the country, and at every grasp and clutch its aim has been to get more and give less. Greed and aggrandizement have actuated it at every turn; and now, when I say that it is impossible to keep my family on \$75 or \$80 a month, I am told, in effect, that that is none of the company's business; that poor men have no right to the joys of a wife and family; that, if I can't get along on that, I may work extra hours, live cheaper, go in debt, and be ground out of existence altogether—or, in short, go to—well, never mind.

Ten, twelve, fifteen years of faithful work goes for naught. I have not been given to fawning upon, and licking the hand, spaniel-like, of those about me, and so I am not a chief operator or a manager, and even if I were, for the real purpose of life, standing, and independence in the world, how much better would I be off?

As I am only one out of thousands, and as we may presume that they have been impartial in the matter of reductions, it is to be supposed that there are thousands more in a like frame of mind with myself. For my part, so long as I am paid anything less than from \$100 to \$110 a month, according to location and work, I shall consider myself plundered—by plunderers, too, who will not continue it a day longer than they think they can with impunity.

Is anyone in the profession, or whatever you call it, at a loss to understand why these audacious reductions have taken place? Simply because they have probed us and feel, or at least think, that they have to do with babes and sucklings, who will stand anything so long as they leave them a coat to their backs and a morsel to eat. "Why, these chicken-hearted fools," they say, "what's the use of paying them what they earn, so long as they will accept less? A little strategy and we can wheedle them out of 25 to 50 per cent. of their property without a murmur." So they pick out and set on their henchmen with pruning hooks; appoint a fawning hypocrite here and there to do this dirty work, who, chuckling over their own good fortune at being selected to kiss the feet of such high dignitaries and draw a little extra blood money, go to work, and the result is upon us.

If I have a correct estimate of the mettle of which the telegraphers are made, this thing cannot last always. The blood should be burning our cheeks and dancing through our veins, kindling the fire of just indignation at this great imposition. Every man should be in communication with his neighbor, looking toward some means whereby these people may realize that instead of a crawling worm, they have to do with a sleeping giant that in its waking will shake the very foundations of the structure they have founded on our loss. Every telegraph operator in the land should understand that it is his own personal business to repel these invasions. Every man of us should be alive to the importance of the change that is surely being wrought in our circumstances. This is a simple business proposition. If we are willing to sit down, fold our hands and accept whatever our masters are willing to give us, I, for one, glory in their policy, and have no doubt that I would do the same thing myself if I were in their place. It is our place and privilege, however, to assert and perform in good time that which we undoubtedly have the power to do if we will. United, we may insist upon what we are entitled to, but divided we must bow at every kick, and accept, with thanks, what the master offers. **RADICAL.**

EVERY one does not appreciate in the same way the new curative means employed by modern physicians, as the following dialogue will go to prove: "Have you tried electricity for your complaint?" was the question put to an elderly lady who had been suffering for some time. "Electricity? I should say I have. Last summer I was struck by lightning, but it does not seem to have done me much good."

An Interesting Letter from Buffalo.

I like quiet, and am not particularly impressed with the fiz, whiz, bang, style of celebrating the "glorious (?) Fourth," indulged in by the average American, and especially the younger members of the community. Consequently, when at an early hour this morning my "slumbers of the just" were broken by the efforts of the ubiquitous small boy to make himself more of a nuisance to the general public than nature ever intended him to be, I vowed me a vow that I'd up and hie me hence. Having, during the past month or two, captured much extra, and saved numerous coins of the realm, I had several days ago provided for a possible emergency of this nature by bargaining with one of the obliging (for a consideration), members of the force to fill in my trick for the day. Being like Mrs. John Gilpin, "of a frugal mind intent," I have packed my lunch basket with a liberal supply from my good landlady's bounteous store, my uister pockets with a supply of mental provender (among which I mention the latest copy of "THE OPERATOR," secured transportation out and back on the "Old Erie," and shaking the dust of Buffalo off my feet, here I am in God's country for the day. No parade save that of the birds and bees. No gunpowder, no aforesaid small boy, and last, but by no means least, no extensively enlarged caput to-morrow morning. No man who is truly happy can restrain a wish to tell the tale. Hence, I come to Thee, oh! OPERATOR, hoping that another anniversary of this day will find many choosing this better way to celebrate the anniversary of our National Independence.

It is but seldom that there is any allusion in THE OPERATOR to our busy lake city, and when it is, it is not apt to be as complimentary as we of the fraternity could wish, many there are who might at least monthly, pen a few lines to advise your readers of our doings. But there is but little of note transpiring here from month to month, and there are few members of the force who have leisure, if desire, to write it.

Within the past few months there have been numerous changes here. "The powers that be" decided last winter that all new aspirants to fame, honor, and wealth, in the Buffalo office, should commence their experience in that line at the munificent sum of \$50 a month; consequently, the collection at the spring muster of new recruits was more amusing than interesting. As a natural consequence, there have been further changes since, and rumor hath it that there are more to follow.

In the early spring, Tom Eipper, weary of waiting for the advance that never comes (in Buffalo office), accepted a position with the Board of Trade Company, in this city, securing better hours, brighter prospects of advancement, and, we learn, to the surprise and disappointment of certain worthies, more than a \$5 increase of salary. Frank Livingstone, of the Black Rock office of the N. Y. C. R. R. fills this vacancy very acceptably, we understand. C. A. Buck was the next man made happy. Chawles is a bold, blonde Briton all over, but a better drug-store than manipulator of Morse. He tarried with us but a short time, then flitted in a night. Willie Pinckney, who advanced from the East Buffalo office during the winter, also discovered the light very warm, and being offered inducements from the managers of the police telegraph of this city, also left us. F. L. Gardiner, a gentleman of many virtues and great attainments, from the "rural districts," next made his appearance upon the scene of action. It is reported that Mr. Gardiner has great expectations from some foreign land, consequently works only for glory, the financial remuneration of \$30 a month being a minor consideration—and yet he is not happy. The well known countenance of Dug Burnett beamed upon us one morning, and his assertion that he had "come to stay," was hailed with delight by all, for Dug has but one enemy in the wide world. He worked but a few weeks till his health failed, and he retired, we understand, to the country, for the summer. E. G. Bradstreet, whose former place of residence and condition of servitude is unknown to the writer, is a new appointee, of whom, as yet, little can be said one way or the other. John Cum-

mings, a well known Syracuse boy, "has just joined the army" here. Our one split trick is this season acceptably filled by Joe Anderson, in order to give him more time to devote to the management of the "Buffalo B. B. C." Edward Thresher still carries here.

Our worthy manager's many friends regretted seeing his name so prominent in the last issue of your paper. Regretted more that any possible excuse should exist for such mention. Than he no kinder-hearted, more genial or whole-souled man lives. We, who have been with him through the heat and burden of the day, for many years, have always believed him *personally* anxious to see his subordinates prosperous and happy. That he thus feels at present we are uncertain. Whether it is owing to his lack of interest in us, or to his lack of influence with the powers that be, we are unable to state. There are few that anticipate a more favorable condition of affairs from any change that is liable to take place in this district.

At the time of the grading the majority of the operators in this office were reduced from \$3 to \$12 a month, some reductions being most unjust, even as compared with like "equalizations" in other offices. That we were all promised, officially, that in case of a vacancy one man from each lower \$5 grade would be advanced that amount is true. In only one instance has this promise been kept. That was when the vacancy was a \$55 one, necessitating the rising of but *one man*. There have since been two vacancies in the \$80 grade, and in answer to urgent inquiries from some of us, we are told, "There is no prospect whatever, etc." Was the "proclamation" from the Executive Committee issued at the time of the grading, and on which such great stress was laid in the official organ, afterward officially and privately withdrawn, so far as Buffalo is concerned, or are "the powers that be" in this district pursuing this policy on their own responsibility, for reasons best known only to themselves.

There was a time not long ago when this was one of the most desirable offices in the company. At this present time, if there is one single office in the United States that all first-class men should shun, that office is Buffalo. Day men are compelled to work every other day from 8 A. M., till 9 and 10 P. M. Not every man exactly, but then we can't all be "sisters and cousins and aunts." Even our chiefs—and from Dan to Beersheba I assert that none will be found to differ with me in my assertion that there are none better—are paid but \$5 a month more than the highest grade of operators, and if the pay-roll tells a true tale, they are chiefs in duties and responsibilities only. Those higher in authority have been heard to assert that the day was not far distant when \$50 would be the average salary for operators. As more than half the men in this office now receive but that amount, it is evident they believe whereof they speak. "And woe unto managers and chief operators in those days." What will their average be? But we are told that "the wicked shall not always flourish," and even now the clouds begin to lift, and there is here and there a view of sunlight, which, slight as it is, betokens a possible good time coming. WATCH TOWER.

Out in the Country, July 4th.

Samuel H. Edwards.

The telegraphic fraternity has been called upon to mourn one of its brightest lights. Of the thousands of active working telegraphers in the country, there are none more widely known, personally and by reputation, than was "Sam" Edwards, chief operator of the Atlantic & Pacific Company in this city. He had a host of friends, and was a friend to everybody. Said a prominent officer of the A. & P. Company to the writer: "If the impecunious telegraphers Sam has helped would come forward and repay the money he has loaned them, a monument second to but few in Greenwood could be placed over his grave." This little instance is illustrative of his life, as hundreds of men who will read this sketch can testify. Mr. Edwards was born in New York, and entered the telegraph service over twenty years ago. He began as a messenger boy, and his pro-

gress upward to the goal of his ambition—the switchboard—was through a pathway cut out by himself. His success was earned by dint of hard work, and his ability in his peculiar field was little short of marvelous. Professor Edison says he was the best manipulator of wires in the United States. His patience and perseverance were supported by a knowledge of detail that can only be acquired by long years of experience and study. Added to these was a sort of aptitude for the work that made him in reality king of the switchboard. Genial and kindly by nature, what wonder the man had friends? The linemen regarded him with special favor, for well they knew he spared them whenever possible; and no one ever heard him complain. He served prominently and with great credit in the U. S. Military Telegraph Corps during the war, and was frequently under fire, but always fearless of danger. On one occasion Gen. Warren's corps was compelled to fall back some distance on the field. When it had halted, the General discovered that the wire was between him and the opposing rebel forces. He was anxious to communicate with another command, and expressed his regrets to one of his staff officers. Sam overheard the General's lament, and promptly volunteered to cut the wire and send the message. The General regarded him with astonishment, for the position was in the face of the rebel army, and would expose the fearless telegrapher to their fire. Sam undertook the perilous task, under cover of a battalion. His duty done, Sam bounded back within the Federal lines, and saluting the General, unbidden tears filled the eyes of the stern commander as he expressed his recognition of the telegraph boy's bravery and devotion.

In the office Sam was genial, even jovial, and his life was made up of generous actions. The day following his death a meeting of telegraphers was held in the A. & P. office, and the following resolutions were adopted:

Resolved, That in the call from above which our chief has answered, the company has lost a faithful, honored employé; the profession, one of its brightest stars, and his comrades a tried and devoted friend.

Resolved, That we tender to his bereaved family and relatives our sincere and heartfelt sympathy in this their sad loss, and that, with the delegations from various parts of the country, we join in floral tributes and attend the funeral in a body.

The funeral took place on Sunday, the 6th inst., from the Presbyterian Church in Franklin Av., Brooklyn. It was in truth a funeral of flowers. The floral tributes were many and varied in design. The principal piece was a representation of a telegraph pole with arms and insulators. At the base was a spur in violets, and the initials "S. H. E." This was presented by the linemen and batteryman of the New York office of the A. & P. Company. The employés of the Boston office sent a broken column, with the inscription, "An Expression of Love and Esteem from the Atlantic & Pacific Employés of Boston to their Late Brother and Friend, Samuel H. Edwards—The Cross is out." They also sent a pillow, with the words, "Boston Mourns." The Philadelphia office sent a pillow, on which were the words, "Philadelphia Friends." The New York office also contributed a magnificent bed of white flowers, with the words, "Our Chief," traced in blue. The whole was surmounted by a broken column, on which rested a dove.

The remains were interred in Greenwood, by the side of his little boy, who died only a few weeks before. Two weeks prior to the day of the funeral, Sam visited the cemetery, and when he returned home said to his wife: "It looks very lonely there for poor dear Harry." But he added: "It won't be long before some of us will lie there too." The immediate cause of death was paralysis of the brain, superinduced by hard work, and grief at the death of his boy. *Requiescat in pace.*

It is a remarkable fact that no vessel propelled by steam was ever struck by lightning, nor any ship which was built of iron.

Echoes from 197 and City Items.

The American Union promises to be a baby of the healthiest kind. Numbers of the very best men are turning their eyes longingly toward it, and rumor has it that the Economical Coterie is just now doing some tall quaking. The hearty response comes cheerily, "Let her quake."

B. W. Merriam was transformed into B. W. Gryan, and was received by an old, and unquestionably able man. The bulk of the evidence tends to show that the sender was struggling, and apparently successfully, in an endeavor to annihilate space. It would have been better for the prompt delivery of the message, however, if he had not been quite so successful.

E. J. Hirshberg has been transferred from St. Nicholas Hotel office, evenings, to 12 West 23d St., same hours. His place at St. Nicholas has been filled by a gentleman named Kibben, from the Elevated R. R. The presumption is that the latter gentleman has bettered his condition by the change; if so, strange as it may appear, he has raised himself by becoming lower.

General Superintendent H. W. Pope, has been absent for the past two weeks, attending the delegation of A. D. T. Co. representatives of the country, recently held at Chicago. The duties pertaining to his office have, in the meantime, been performed by Inspector W. E. Huntington, whose sudden elevation has not, contrary to all expectations, destroyed his equilibrium. The boys are just as much impressed now at his approach as heretofore.

The Broadway establishment of Messrs. Lord & Taylor was the first large store in this city connected with the fire alarm telegraph. On each floor of the building there are located at two different points electrical push buttons inclosed in small wooden cases having thin glass fronts. In case of fire, it is the duty of the watchman to break the glass, and press on the button. Thereupon an automatic machine communicates an alarm to the Fire Department, and shows that the fire is at Lord & Taylor's.

John C. Bell, who died at Brooklyn, L. I., on the 28th of June, was a Canadian by birth. His funeral was attended by delegations from the Western Union, Gold and Stock, and A. & P. offices. "Jack" was buried on Pleasant Hill, in Evergreen Cemetery, and as the earth fell on his coffin with a low thud, it admonished us anew that:

"We are such stuff
As dreams are made of, and our little life
Is rounded with a sleep."

At the funeral service of the late Samuel H. Edwards, in the Franklin Avenue Presbyterian Church, Brooklyn, on Sunday, July 6th, the Western Union main office had a distinguished representation. There were present Captain MacIntosh, Assistant Superintendent Redding, Managers Downer and Ludwig; Chief operators Dwight, Downer, Gregory, Brennan, Kennedy, Sink and Tobin, and Mechanical Engineer Morris. The lady operators were represented by Miss Emily L. Ross of the Troy wire, Miss F. L. Dailey, chief of city wires, and several others. A detachment of messenger boys was present in uniform, and there was a full delegation of the rank and file.

A Honorarium of \$2,500 for Mr. Swinyard.

At the general meeting of the Dominion Telegraph Company, at which the lease to the American Union was confirmed, President Gibbs stated that when Mr. Swinyard entered the service of the Dominion Company, an arrangement was made with the former Vice-President, Mr. Mackenzie, that a certain salary should be assured to him; the Company had not carried out the terms of the arrangement made between Mr. Swinyard and Mr. Mackenzie, but the Company had met as far as possible the reasonable demands made upon it. It was for the present meeting to decide whether it should take cognizance of the services that Mr. Swinyard had rendered them. The matter had never been mooted at Board meetings, because it was felt that it was a question which the directors should not deal with, but if Mr. Swinyard's services should be recognized, the shareholders should do so publicly at the present meeting. He strongly recommended that the shareholders should instruct the Board to present Mr. Swinyard with a honorarium of \$2,500. Sheriff Waddell moved, seconded by Mr. Tood, a resolution to that effect, which was carried unanimously.

Stabbed by a Telegrapher.

During a quarrel on Sunday afternoon last, July 13th, near the lower end of Fulton street, Brooklyn, Michael Travis, a longshoreman, was dangerously stabbed twice by Paul Sherley, aged 24, a night clerk in the Western Union Telegraph office. Previous to the stabbing Travis had endeavored to provoke Sherley to fight, and the latter had gone to a policeman at the ferry and urged him to arrest Travis. The officer told Sherley to go to court and make a complaint, and then moved off. Sherley walked back, and Travis crossed the street and attempted to strike him with a cane. Sherley avoided the blow, and, drawing a knife from his pocket, stabbed Travis twice in the left breast. Travis fell to the sidewalk. He was taken to the City Hospital. The wounds, although serious, are not necessarily fatal. Sherley made no attempt to escape, and gave himself up to a policeman. He says that he used every effort to avoid a quarrel, and that he acted in self-defence. Travis was under the influence of liquor, and he was unconscious and unable to identify Sherley when the latter was taken to the hospital. At a late hour Sunday night the police were notified by the hospital authorities that Travis was in a dying condition, and Coroner Simms was summoned to take his ante-mortem statement.

Dashes Here and There.

The telegraph furnishes a lock for the lightning-key, but the door hasn't been found yet for the thunder-bolt.

Who was it that once said there wasn't a man in the business who could rush him, as long as he had a key on his desk and knew how to use it? But that was before the days of the duplex and quad. This may have been the same party of whom it was said, that he only broke because he had a key.

It is a great mistake for the younger men, while they feel strong and full of spirits, to work so many extra hours. Some of them, with iron constitutions, can no doubt stand the strain without injury, but the greater number are apt to discover, when too late, that their health is ruined and that they are prematurely aged. A proper care, and the needed amount of rest is what each one should take special pains to procure.

Probably no two words in the language are used more frequently in telegraphing than the two, "Answer immediately," and it is almost beyond belief how many different ways they can be spelled, according to the whim, or, more correctly speaking, the intelligence, of the spellers. When a man spells it "an-cur" once, what's to prevent him trying it, "anser," "awnsur," "ansr," "awnsur," at every repetition. He has no rule to guide him, in the first place, and the facts would seem to indicate that he endeavors to improve upon it every time, and with unqualified success too. The above are a few samples. The contortions of the word "immediately" are more bewildering still. Sometimes it comes close to the original, as "imeditly"; and again a reckless abandon seems to take possession of it, and "ameditly," "emedtly," "amedetteley," follow, with astonishing regularity. Many other words, much simpler, suffer a similar fate.

At a certain railroad station where the operator is agent and general manager, a few days ago a well dressed and handsome stranger, carrying a valise in his hand, and with no outward appearance of insanity, alighted from a train that had there stopped a few minutes. He walked up to the afore-said general manager and, in an inquiring tone of voice, said: "Can you tell me, sir, what is the strong point of resemblance between you and myself." The whistle of the locomotive warned them to be expeditious. The agent looked bewildered, then gasped out: "Can it be possible? My long-lost twin brother! Have you a straw?" The train began to move, and so did the stranger, at the same time yelling out: "No, no! never drink with a straw." Then louder still: "Because we are both station (ery) agents." A wild laugh from the departing train, and these words, somewhat indistinct, greeted the operator's ears: "That's the twentieth station nary agent has escaped, so far." It will be well for that drummer, when he travels by that line in future, to travel by some other.

Mr. F. Pappard, of Basking Ridge, N. J., telegraphs by means of long and short flashes of the electric light, the regular Morse alphabet being used.

Several messages were successfully sent from Woking to London, 26 miles, recently, by the Cover "writing telegraph," each word being distinctly written.

The total length of telegraph cable manufactured by the Telegraph Construction and Maintenance Company of London during the year 1878 was 2,631 miles, of which 289 miles were made for the British Government.

Some of the London papers exhibit commendable enterprise in the liberal manner in which they patronize the telegraph. A two-cent newspaper in that city recently received a dispatch, which cost over \$1.100.

At Utica, N. Y., July 9th, during a heavy thunder storm, as Miss Carrie Smith sat by a window sewing, the lightning twitched the needle from her hand, and ran up her arm, benumbing it. Those who took hold of her hand soon after the occurrence received a perceptible shock.

The Faraday left England June 18th for Brest, with a quantity of the new French cable on board. On the 27th a telegram was sent from on board the Faraday, saying that 345 knots had been paid out, and the end of the cable would be sealed and buoyed and the steamer would return to England, calling at Brest.

Since the opening of the British Parliamentary session, two new wires have been worked simultaneously and continuously between London, Dublin, Cork, Belfast and Londonderry, at the unprecedented speed of 130 words per minute. The English Post Office authorities have recently been making very great improvements in their fast-speed telegraphic apparatus.

It is believed that if there had been cable communication between England and Cape Colony two years ago, when the laying of a cable was strongly urged, the present Zulu war, with all its bloodshed, would not have occurred, and that Great Britain would thereby have saved at least \$50,000,000 in money. The laying of the cable now looks very much like locking the stable door after the horse has been stolen.

Something has recently been said about the period of business depression having passed, and that a bright outlook may be anticipated in the future. The enforced economy that was necessary, and the excellent business management that enabled the company to carry its employees safely and gently over the downward grade, is spoken of in the same article in terms of modest self-gratulation. This is very true, and the fair-minded men cheerfully acquiesce in the justice of the claim. At the same time a glance backward will show that the regular quarterly dividend was as regularly paid all through the days of depression as during those of the greatest prosperity. Which of the two parties could least afford to lose a part of their income is not a very difficult question to answer. These facts go to show, however, what has been so often shown before, that the more we have the more we think we need. And how many of us would act differently under the same circumstances?

PERSONALS.

William Fothergill Cooke, who constructed the first telegraph line in England, is dead. He was 73 years of age.

Emperor William, of Germany, received 13,000 complimentary letters and dispatches on the occasion of his golden wedding.

Mrs. Etta Thompson, the popular operator at the Navy Depot, Washington, is rusticating for a month at her home near Lake Ontario. Mrs. Thompson deserves great credit for the rapid progress she has made. It is only about two years since she entered the business, and she is now said to be "unrushingable."

The wedding of Mr. A. E. Chantler to Miss Kate A. Nichols, at Minneapolis, June 24th, was a very pleasant affair. Many telegraphers were present, and the happy pair received numerous handsome presents. Mr. and Mrs. Chantler remained with the lady's parents for a few days, and then left for Breckenridge, where Mr. Chantler is to have charge

of the office for a few months, after which he expects to return to Minneapolis and resume his old position at the St. Paul, Minneapolis and Manitoba depot, in that city. The newly-wedded couple have the best wishes of all who know them.

Mr. W. W. Wheatly, of Princeton, Ky., has turned his back upon the telegraphy, and gone into other business in Louisville. Among all our acquaintances, in or out of the profession, we know of no more sterling gentleman than Mr. Wheatly, and on behalf of his many friends and acquaintances among the fraternity, wish him every prosperity in his new and enlarged sphere of usefulness.

Mr. Crosby J. Ryan has received several very welcome remittances since his wants were made known in this column. His condition, however, is still about the same, being unable to obtain employment. Such further aid, according to their means, as the charitably disposed can bestow, will reach Mr. Crosby, if addressed care of the Detroit, Mich., Western Union office.

The following postal card was recently received at the Augusta, Ga., office, addressed to the manager and operators. None of the gentlemen, however, appear to have saved any money; at least none of them accepted the generous Texan's offer of half interest in his ranch for \$2,000. The postal card reads: "Have any of you gentlemen saved any money? Do you ever think of coming to Texas? I have been manager this office ten years. Have a splendid farm and rancho, 1,000 acres inclosed. Want a partner. \$2,000 for half interest. Healthy here, fine breeze, good sporting—geese, ducks, prairie chickens, etc. Write me. Address Manager, —, Texas."

Mr. Wm. Essex, operator at Piermont, N. Y., received a severe shock from a thunderbolt while in his office during the thunderstorm of Friday evening, 4th inst. Mr. Essex was reclining on the telegraph desk at the time, directly under the switch, and the bolt coming in on the switch, took effect in his side, utterly prostrating him, and rendering him unconscious for several minutes. Some gentlemen happening in at the moment, took immediate steps to revive him, after which, upon examination, a light blister was discovered on the left side, beginning under the arm and extending downward. Aside from a general feeling of weakness, and the blister on his side, Mr. Essex experienced no inconvenience, and was on hand for duty as usual next morning.

Speaking of the new company, in a private letter, a well-known telegrapher, whose opinion is always valuable, says: "You have probably set me down long ago as a strong anti-opposition man, as regards the Western Union. I thought I saw in the P. and A., A. and P., Franklin, and the others, the stockbroker's hand; but now I am pleased to think that I can join you in praising the prospects of the soon-to-be brilliant American Union. I do not think there is any trickery in that. Vanderbilt and Gould can never strike hands, and I'll be much mistaken if the new company does not ultimately eat up the W. U. Now if they will only keep from ten-cent rates, which seems to be one of the fatalities of 'enterprising' opposition, it will be a grand thing for the operators and the business generally."

Mr. Robert A. Meier is a worthy example of what an operator may achieve, if he is only determined to advance himself by hard work and diligent application. Mr. Meier, while holding the position of operator at Philadelphia, studied at the University of Pennsylvania. On Friday, June 13th, he received the degree of Bachelor of Laws, and on the following day was admitted to the bar. After saying that Mr. Meier is well known throughout the country as an expert telegrapher, having traveled extensively in this country and Europe, the Philadelphia *Sunday Mercury* adds that his many friends will be glad to hear of his admission to the Philadelphia Bar, and will wish with it that his career as a barrister may be as successful as was his connection with the press during his life as a telegrapher. Mr. Meier is a thorough German and English scholar. He graduated with full honors at the University, and will doubtless prove a valuable acquisition to the junior bar of Philadelphia.

BIRTHS.

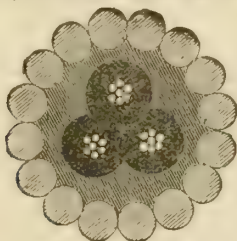
June 20th, to B. S. Jasselyn, operator, C. R. I. P. R., Council Bluffs, Iowa, a daughter.

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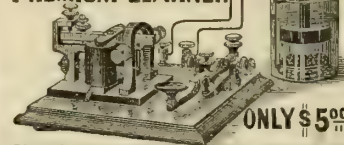
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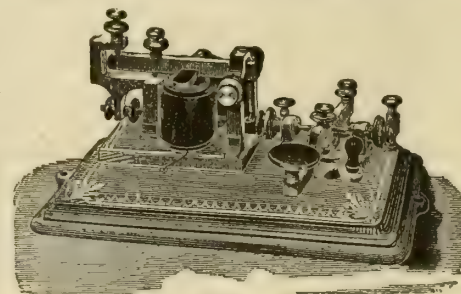
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VOL. X.

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No. 15

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February 12, 1877, he writes further, "This piece of Kerite wire, unprotected by any covering, was in use in the tunnel under the river in Chicago from Sept. 1869 until December 1876, and shows no signs of decay or deterioration in its insulating qualities."

Prof. MOSES G. FARMER says, "I have used your Kerite as leading wire more or less for four or five years. It stands abuse, changes of temperature, alternate wetting and drying better than any insulator I have tried."

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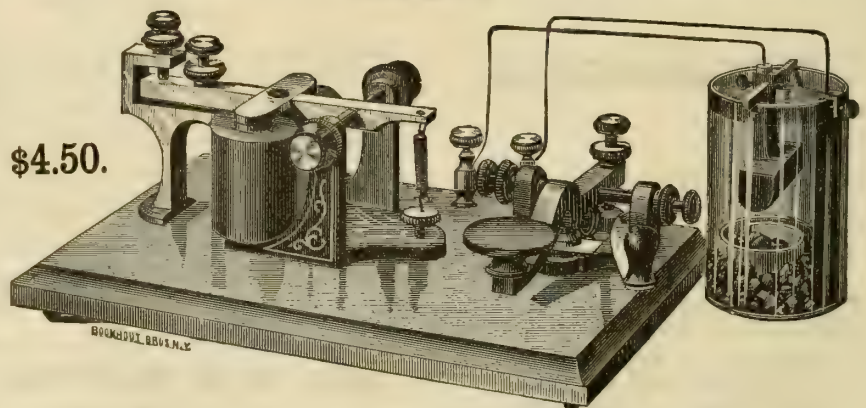
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THE OPERATOR

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August 1st, 1879.

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Whole No. 131.

On the Border.

I'm pressing toward the river,
I hear its breakers roar;
My path grows steeper ever,
My feet haste more and more.

Beyond me lies my Faith-Land,
Goal of my hopes and fears;
Behind me stretches Home-Land,
Scene of my toils and tears.

Forward is peaceful resting
Under the Tree of Life;
Backward is toil unceasing,
Saddened by bitter strife.

Yonder, the crystal mountains
Their fragrant cedars wave;
Here, every swelling hillock
Is fetid with a grave.

There, friends with eager waiting
Stand beck'ning on the strand;
Here, only unknown fingers
Close o'er my groping hand.

But while I trust the promise
For blessedness to come,
And long for heavenly mansions,
I cling to earth, my home.

Heaven's light is dimmed by distance,
My sky is overcast,
And while my hopes look forward,
My heart is with the past.

In heaven-born faith rejoicing,
Of earthly doom the slave,
Heir of eternal glory,
I weep above a grave.

A woof of contradictions,
A warp of steadfast trust,
My spirit shouts Hosanna!
My mouth lies in the dust.

Dear Lord, in deep affliction
I bring to thee my grief;
Fainting I look to heaven—
Help thou my unbelief.

SUMAC.

LUDLOW GROVE, O., July 21st, 1879.

Telephone Exchanges.

The National Bell Telephone Company has issued a neat circular for general distribution, explaining the uses and conveniences of the telephone exchange system among business and professional men, and for domestic purposes. The circular commences by saying that the uses of the telephone are numerous and varied, but its greatest feature and principal object is the establishment of general communication between all the business men and residents of a city, town or village, connecting them directly with each other, with the fire and police departments, and with other municipal institutions. This is done by means of what is known as the telephone exchange, which is constructed and operated in the following manner:

An office is located as nearly in the center of the territory occupied by the patrons of the exchange as is possible, and from this office wires are run to the different residences and places of business of the patrons of the institution, and also to the several police stations and fire engine houses. These wires are then connected with the telephones, which are in turn placed in some convenient locality in the place to be served. Each patron is then given a number and a list of all the other patrons and their numbers.

Should one subscriber wish to speak to another he has but to touch a small ivory knob beside the telephone, which, upon being pressed in, rings a bell

and drops a shield at the exchange office, displaying his number on an indicator. The call-boy on duty at the exchange office then presses upon a similar knob attached to the wire of the person calling, thereby ringing a bell attached to his telephone and indicating that the call has been received.

When this is done, both press upon another knob, thereby creating an electric current, and the patron wishing to talk tells the call-boy to switch him on, or connect him with the party with whom he desires to communicate. This is accomplished by means of a switch-board, whereby the wires of the two patrons who are to talk are connected, or switched together, when conversation may be carried on in ordinary tones, though miles may intervene between the speakers.

Thus it will be seen that the inhabitants of a whole city can be placed in verbal communication with each other, while hours of valuable time (which to a business man is money), much trouble and actual expense, can be saved by the employment of this wonderful invention, and as an agent of rapid communication it often becomes simply invaluable.

A business man who wishes to ascertain whether a lot of goods have arrived at the depot, which is half a mile away, instead of taking a busy clerk from his work for an hour and sending him, is merely put in communication in a moment with the freight office, and immediately obtains the desired information.

A lady wishes to speak to her husband at his office—or a gentleman to his wife at their house—they have only to ring the bells and talk; no valuable time is lost.

The groceries, the meats, the coal—everything—can be ordered in the same way without the necessity of going or sending through the rain and mud, the snow and cold.

In short, the same objects can be accomplished by means of the telephone that can be attained by going in person.

A number of boys specially trained for the service, and wearing the regular National Bell Telephone uniform, are kept constantly on duty at the central office day and night. Should a subscriber wish to have a note delivered, a bundle carried, or any service performed that a smart, active, intelligent boy is capable of, he has but to speak through the telephone the magic words "Send me a messenger," and like the genii of old that appeared at the summons of Aladdin, this genius of modern civilization waits at his master's elbow ready to do his bidding.

Telephonic communication can be established with police headquarters so that in the event of burglars attempting to enter a house, or in case of annoyance from vagrants or tramps, an alarm can at once be given to the central office, quietly and without the sound of the voice, and from there transmitted to police headquarters, and a policeman dispatched at once to the scene of the disturbance.

A person desiring to send this alarm would simply press upon the push button a number of times in rapid succession, thereby producing a number of short quick strokes upon the central office bell, then pause, and ring his number twice, which is the signal for police. The call-boy would then immediately ring up the "police station," and notify them where the alarm came from. The officer in charge would glance at his list of subscribers and see the subscriber's name, street and number, and sent a policeman at once to the spot. Generally, arrangements can be made with the city authorities to station a policeman at the central office at night, when there is the most occasion for him.

In case of fire, an alarm can be transmitted to the several engine houses which may be placed in communication with the central office by a single wire, so that they may all receive the alarm directly and at once.

This has proved in many cases a far more satisfactory method of sending fire-alarms than any now in use, as the exact nature and location of the fire can be given, and communication kept up with the engine houses. In addition to the above, owing to the direct communication of the scene of danger with the engine-houses, the engines are generally half way to the fire before a patrolman, or whoever may have the key to the nearest telegraph fire alarm box, can be found, the box reached and the alarm turned in.

Proprietors of factories, stores, banks, warehouses, elevators, breweries and all places where night watchmen are employed, by having a telephone placed on their premises can arrange to have the watchman report to the central office at stated intervals during the night, say every hour, that he is awake, about his business, and that everything is all right.

When it is desired, a record of these reports can be kept and sent to the proprietor every morning, so

that he may know just what has taken place in his establishment the previous night. Should the watchman not report at the time agreed upon, and if he cannot be called, a messenger is sent to ascertain the reason and report.

In case of fire the watchman can summon the engines in a moment to the very spot and then turn his attention to putting it out or removing valuables. He can also notify his employer at his house of a fire in the neighborhood, and can summon him if circumstances should make it necessary. Should he need assistance he can call the police. In no event is he required to leave the premises for one moment.

Lawyers find the exchange system a great convenience and advantage in communicating with each other, their clients and the court room. No time need be wasted in court waiting until a case is called; a lawyer can be notified at his office from the court room when he is wanted.

Already many instances have occurred where petty swindles have been exposed, raised checks, forged notes and irregularities detected by banks being able to communicate directly with their depositors through the telephone.

In case of an accident, or sudden sickness, the family physician can be summoned in a moment. He is always in communication with his patients, and should the way be long, the wind cold, and the indisposition slight, the symptoms can be described through the telephone, and the necessary remedies ordered in a like manner from the drug store.

Telegrams may be transmitted to the central office through the telephone, and there be written out and sent to the telegraph office. Or, if desired, a messenger can be called to carry the dispatch direct.

The circular sums up the whole matter by saying that the general uses, conveniences and advantages of the telephone exchange system are so great and numerous that it is impossible to describe them in a small circular, but where the inhabitants of a whole city are actually brought into verbal communication one with the other without the necessity of leaving their houses or places of business, one can readily see how much valuable time and money is saved, what protection is gained, and what conveniences accrue. Whatever is cheap, simple and useful soon becomes a necessity; and the day is not far distant when the telephone will be looked upon in every household as the most trustworthy, faithful and useful servant that can be had; and in every place of business, as the most valuable auxiliary and time-saver, the most useful agent and greatest protection that has ever been known.

Exchanges, remarks the circular, in conclusion, are only in their infancy yet. New features are daily presenting themselves, which make the system more and more useful, desirable and indispensable.

Soon one exchange will connect with another, and so on, until a network of thousands of miles of wire shall establish verbal communication between hundreds of cities, towns and villages throughout the United States, all the people in the land will converse together as if they were face to face, and a man will better know how to do without his right arm than his telephone.

Protection From Lightning.

One of the most eminent scientific investigators of modern times, Professor Tyndall, of Eng. makes this statement:—"In the telephone, there is no action which men of science would not at one time have pronounced possible in theory, but impossible of realization, and a mere dream. It was through experimental tact alone that so great things had been brought about."

The Brush electric light system gives from one to twenty lights on a single circuit, each light of two thousand candle power. These lamps burn without attention or interruption, fourteen hours economically, with perfect steadiness and great brilliancy. The attainment of such a result has been declared, within the past two years, by four eminent electricians in this country and Europe, an impossibility.

It is not safe, with the ceaseless activity and intelligence of to-day, for men, even of the most eminent attainments, to set bounds to discovery in any department of natural science; and opposition to a new idea or application of principles, on the ground of improbability, before making a careful investigation, only shows the objector to be narrow-minded and prejudiced, even though he rank high among the savans of the earth.

From the days of the patriarch Job, who made the lightnings the messengers of Jehovah, to classic Greece, whose poets and orators clothed the chief of their gods with thunderbolts, and along down the track of time to the era in which we live, the lurid glare of the lightning has ever been a source of anxiety, apprehension, and terror to men. Du Fay in Europe, Franklin in our own land, with other scholars of eminence, from their familiarity with the phenomena of electricity and the means of safety which they have recommended, have done much to dispel fear, and insure protection from its destructive operations. Chief among these agencies have been lightning rods of iron or copper, elevated at proper heights above the object to be protected, and which have, in multitudes of cases, saved life and property. Yet from careful estimates it is found that less than fifty per cent. of all the rods heretofore erected, have, when tested by the thunderbolt, proved a means of safety, and not a season passes that does not give some evidence of the truth of this assertion. Hence there are persons in every community who refuse to use any and all rods, because of cases within their knowledge where they have failed to afford protection. The Boston *Herald* of last Saturday evening spoke the sentiments of large numbers of New England people, when, after a mention of the striking of the stables of Joseph Fisher & Son, and Charles French, West Dedham, on the afternoon of the Fourth, when several valuable horses were killed, it sarcastically added: "In both cases the buildings were 'fully protected by lightning rods.'"

These facts demonstrate to the candid mind that, while we have been able to produce uniform and grandly useful results by means of the milder manifestations of this unseen and tireless agent, we have thus far failed to adequately understand the laws which govern its action when excited to terrible activity and destructive power in the mighty laboratories of the earth and the upper air, and have come to regard it as erratic and uncertain in operation; almost as the creature of chance, rather than the servant of inflexible law.

A discovery which promises to be one of the most important made in this department for many years, is that lightning never strikes the earth except in localities directly over what may perhaps be best described as electrical currents, on or below its surface, with which currents the electrical discharge invariably communicates. This has been determined by a multitude of tests made in localities widely separated. It follows, therefore, that in places where these currents are not found to exist, no danger need be apprehended, as in upward of four thousand instances, where tests have been made during the past three years, no record can be found of any exception to this universal rule. Practical benefit can, however, only be derived from this discovery by tracing and deciding upon the intensity of these currents, and adapting all conductors used for protection to the circumstances of each case, as a rod which does not terminate in one of the earth currents is found not only to afford no protection, but to be a positive source of danger. It is a generally accepted theory that a good rod will attract the descending charge for a distance horizontally in all directions equal to the height of its points above the surrounding surface. From the superior conductivity of its material, an imperfect or poorly placed rod will prove a partial conductor, and yet allow the lightning to leave it before reaching the ground, in most instances doing much damage, and often performing most curious freaks in its efforts to reach the spot to which it is irresistibly drawn. The force of this consideration is intensified from the well-known fact that in many cases the discharge is from the earth to the clouds, and is made through the mediumship of the best conductor which offers at the point of interchange.

The discovery of the existence of these currents, and their relations to lightning, was made by two gentlemen of Merrimac, Mass., George S. and A. R. Prescott. The ability to discover their presence seems to be due to the action of electrical or magnetic forces, operating through living organisms, and is so rarely met that very few per-

sons have been found during three years of constant work whose indications, made by their method, are at all reliable. That no force but that of some form of electricity is adequate to produce the results attained, is shown by the fact that with the insulation of the person of the operator from the current below, all manifestations of its presence cease. Among several thousands of tests which have been made, not one of which has failed of proving accurate, a short notice of two or three in well-known localities must suffice as illustrations of the infallibility of the results, and the performance of the currents themselves.

The large pianoforte manufactory of Hallett & Davis, Boston, had been repeatedly struck. The well-known proprietors, hearing of the success which had attended the operations of the Prescott Brothers, sent for them. After indicating several currents running beneath the factory, they found one ranging diagonally across one corner and extending but a short distance within the enclosure of its walls. They were then taken, by devious pathways, to the cellar, a series of dark subterranean chambers, forming a complete labyrinth. Here they tested in various apartments, their guides leading them over almost the entire area. The currents were indicated in precisely the same courses as before, and the proprietors then stated that the lightning had twice struck in the corner before indicated, and emphasized their conviction of the correctness of the test by placing their rods at once in conformity to the recommendations made.

Bunker Hill monument has several times been visited by electric discharges. To secure a test which might be easily verified, the historic locality was quietly visited and two currents found to connect directly with the rods on the monument at diagonally opposite corners. At the summit two hundred and twenty feet above the ground, the indications were the same, and on inquiry of the keeper of the structure, it was found that the rods which connected with the currents discovered at its base had invariably received the discharges, and conducted them safely to the earth.

The death of the young lady operator on the Western Union lines at Readville, some two years ago, is still fresh in mind. At the commencement of the shower, when the induced currents were occasionally jumping with sharp cracks from the line wires to the ground plate of her lightning arrester, she became somewhat nervous and cut out her instruments from the circuit, seating herself on a window sill about two feet from the arrester. When the bolt descended, the wires conducted it to the cut-out, a number of baggage checks hanging beside it forming another link in the chain, and a discolored spot on the neck of the unfortunate girl showed where the nerves of the system had received it. A visit to the locality decided that no charge had descended the poles outside, but that the feet of the young lady had rested on the floor exactly over a current running parallel with the front of the depot, her body thus forming the best direct conductor in the passage of the fluid to the spot of attraction in the earth below.

The experiments of the Prescotts have been carefully investigated by the Brush Electric Light Company, the first authority in their department of electrical research, either in this country or in Europe, who have been so entirely convinced of the genuineness of the discovery as to extend an invitation to the Messrs. Prescott to occupy their New England office, at No. 17 Pemberton Square, Boston, as a headquarters for work in Massachusetts and vicinity; and who indorse the method as in their opinion guaranteeing absolute safety from lightning. Expressions of similar import are also given by J. N. George, of the firm of Sterns & George, the Boston electricians; Prof. G. A. Wentworth, of Phillips Academy, Exeter, N. H.; Arthur W. Dudley, civil engineer, of the same town; Frank Wiggin, principal of the High school, Merrimac; and other gentlemen of intelligence in electrical matters. The unusual phenomena merit at least a careful examination by the best electricians of the day.—*Brocton (Mass.) Gazette*,

The Fuller Electric Light.

Thomas A. Edison is not the only man who has spent a fortune in an effort to make the electric light serviceable. Col. H. B. Crosby, of the law firm of Crosby & Kent, has laid out over \$200,000. The colonel is the head and body of the Fuller Electric Company, and owns the sole right to the Gramme electric generator in the United States. He first saw an electric light on the Parliament buildings in London three or four years ago. It was so intense that he read a newspaper at Rose Hill, three miles away. From that day to this the colonel has freely used a portion of a large fortune in an effort to muzzle electricity. Yesterday afternoon he sat in his spacious chambers in William street.

"I have heard that for two nights Madison Square Garden has been lighted by gas," said the inquirer. "Why have you withdrawn your electric light?"

"We have not done so," the Colonel replied. "We are only changing the position of the lamps, and perfecting new arrangements. We shall light up again in a day or two. There is nothing wrong."

"What has become of the light that you were using on one of the towers of Madison Square Garden?" we asked.

The colonel laughed. "Well," said he, "do you remember the sharp buildings splitting Fifth avenue and Broadway, at Twenty-third street? A man used a calcium light to throw pictures and advertisements on a screen over the old Erie Railroad office. Our tower light was so powerful that his calcium light, though more than an eighth of a mile away, would not cast a shadow on the screen. At that distance our electric light was twenty-five times more powerful than his calcium light. The man raised a great outcry. He said we were ruining his business, and threatened a suit if we did not remove our light. As we did not wish to injure his business, we shut off the light on the tower."

In further conversation the colonel referred to the light in Place de l'Opera, Paris. "It is never in darkness," he said, "and is ever as light as day. We propose to illuminate Madison square and the piazza of the Fifth Avenue Hotel, between the Worth Monument and Twenty-third street, in a similar manner. When the nights become longer—say in October or November—we intend to put forty lights, each of 2,500 or more candle power, in Madison square, and flood that part of the city with daylight. Why, we could put a light on the steeple of Trinity Church that would enable a man to read a newspaper on Jersey City Heights."

"But what about the cheapness of such lights?" we queried.

"Well, I'll give you a sample," Col. Crosby answered. "Pratt & Whitney, of Hartford, had their machine shop lighted with gas. It cost them \$1.80 an hour. We put in two electric lights, with five times the illumination of the gas, at a cost of eight cents per hour, allowing for carbon, fuel, wear and tear, and everything. The firm was building torpedoes for the Peruvian Government. By the aid of the two electric lights they filled the contract ten days ahead of time. With the use of gas they say they would have been thirty days behind time. Since then we have put lights in Colt's armory, and are being driven to fill large orders. The paper mills at Bellows Falls are lighted by our process, and the electricity is generated by water power. Mr. George Jones, of the *Times*, saw our light in Madison Square Garden, and told me that he was greatly pleased with it. It was the first steady light he had seen. All others flickered at odd moments, causing a disagreeable sensation. Mr. Jones wanted to make arrangements for putting up one of the lights in the composing room of the *Times*, and I told him we would accommodate him. The generator can be run by the same engine that works the printing presses."

Further questioning drew out the fact that all these lights had carbon burners. The colonel also made the astonishing statement that the company owned the patent for an indestructible carbon burner. Heretofore the carbon has been consumed, and at intervals the lights have been re-

plenished. Last year, however, Col. Archibald Henry Plantagenet Stuart-Wortley took out a patent in England for an unconsumable carbon light. This patent is now owned by the Fuller Company. Before this discovery the points of the carbon were burned away by the formation of gases due to the combination of the incandescent carbon with gases in the atmosphere. Under this patent the carbon points are protected by a hood or shield of asbestos, which prevents them from being burned away. A second specification in the patent provides for mixing the asbestos with the carbon. Its effect is to retard the burning of the points. Under this patent no regulator is used to keep the carbon points together.

With an indestructible carbon burner and a perfect divisibility of the light claimed by Mr. Edison, it would seem that the hubbub over an undiscovered mine of platinum ought to cease. Mr. Edison has said that in all carbon machines not more than forty-four per cent. of the horse-power used went into the lamp. Col. Crosby, however, says this is not the case with the Fuller machine. "We found," said he, "that the amount of horse-power was proportionate with the latent electric heat brought in play by the generator. The more heat the more horse-power. Mr. N. S. Keith, our electrician, has invented a machine which takes the latent heat from the generator and turns it into an electric light one-third as powerful as the main light. With the latent heat thus drawn off, the horse-power is reduced two-thirds. So, by the aid of Keith's invention, the horse-power is not only reduced two-thirds, but the illuminating power increased one-third."

As to the divisibility of the light, the colonel says that he has never seen a light of less than 500 candle power made by the Fuller process. He thinks there will be no trouble in reducing it to a fifteen candle power. Experiments indicate this. It, however, remains to be proved.

Under a patent granted to Mr. Fuller on Nov. 26, 1878, the main current generated by a machine is not used except as a generator for small inductors. These inductors are worked with small wires, and are placed near the main wire. The electric sympathy is so great that they generate enough electricity to light two or more lamps each, of from 500 to 3,000 horse power.

"How is it that the inductors catch the electricity from the main wire?" the unscientific reporter inquired.

"They don't catch it," the Colonel responded. "They catch the infection the same as the laughter of some persons sets everybody to laughing. You've seen two men talking, and when one got mad it was sure to make the other angry. The second man didn't catch the anger from the first one, but the first one's anger generated anger in the second one. Just so with the inductors. The sympathy created by the electricity on the main circuit generates electricity in the inductors that feed the lights."

These inductors were not used at Madison Square Garden. There each light was run by a separate generator. Nor were the indestructible carbon candles used. Col. Crosby says that they had some of the old-fashioned burners on hand, and used them up in preference. After all, the greatest curiosity that could be shown at Madison Square Garden would be electric lights of fifteen candle power, made by the Fuller process, with indestructible carbon burners.

Col. Crosby's house is lighted with electricity. At any hour of the night, by leaning out of bed and touching a button, every room in the house is filled with daylight.—*N. Y. Sun.*

A new electric light was exhibited for a few hours last night from the top of a building in Printing House Square. It was of 500-candle power, and the light was produced with 10 inch carbon points. It seemed to illuminate an unusually large area, lighting up the white faces of the City Hall and the Post-office building. It was strong enough to bring into prominence the objects on the buildings across Broadway and Park Row. About the statue of Franklin was light enough to enable one to read with ease, and the car horses probably formed ideas that it was to-morrow already.—*New York World.*

Cheap Telegraphing.

If the Western Union Telegraph Company had heeded the counsels of this journal and the dictates of common sense, the Gould combination that is now spanning the continent and spreading its network of telegraph wires into every business centre, would have been unknown. The American Union Telegraph Company, that will have lines from the Atlantic to the Pacific in a few days, and that will soon add another to the many lines connecting the Eastern cities, may be called a venture of Jay Gould's to make the Western Union or Mr. Vanderbilt pay tribute to his greed or his pride, but it would be an impotent movement that none need fear were it not for the fact that it appeals to the considerate judgment of the people of the whole country against the extortionate telegraph monopoly that has so long oppressed the business of the United States. Doubtless Jay Gould would sell out the American Union Telegraph Company to the Western Union, if it should be made his interest to do so; but his vast resources under the recent act of Congress opening the railway telegraph lines to public use, and the interest enlisted in his new enterprise by the universal demand for cheap telegraphing, must make the purchase of the new rival so costly as to practically forbid it. Hitherto every attempt at competition in telegraphing has been bought out by the Western Union; and between the purchase of needless competing lines and watering the stock of the Western Union, that company has a capital of three or probably five times the amount represented by actual property. This greatly inflated capital has required the business and the press of the country to pay exorbitant rates, to assure dividends on tens of millions not actually invested in the construction of necessary lines. But with all the watering of stock and the purchasing of competing lines to maintain a complete monopoly of telegraphing, the Western Union Company could have defied successful competition and paid reasonable profits by reducing the rates to a fair standard. The business of the telegraph would be doubled or trebled in a month by such reduction of tolls as would invite its employment in all cases where it could be used profitably in every-day transactions; but the Western Union has obstinately defied the interests of business and intensified the popular prejudice against its extortions until it has invited Jay Gould to grapple with its weakness and it must now pay a severe penalty either by excessive tribute to Gould or by a reduction of rates quite below what the public would have demanded.

The rates maintained for telegraphing in this country have been most extortionate. Even when cheap telegraphing had been most successfully established in Europe and the growing demands of our more progressive people called for it here in mandatory tones, the Western Union has resolutely defied the plain teaching of common sense and deluded itself with the dream that buying out a competing line now and then would give it a perpetual monopoly of what has become one of the supreme necessities of business. Instead of looking to the accommodation of the press and of trade and aiming to make telegraphing profitable by multiplying the employment of the wires, the Western Union has assumed that it could tax the business of the country for any new expenditure required to maintain its monopoly; and every purchase of a rival line has been promptly followed by an increase of from fifty to one hundred per cent. in the rate of telegraphing. Thus instead of advancing this now indispensable agent to keep pace with the growing wants of a rapidly advancing people, and extending its uses by cheapening its costs, exhaustive efforts and lavish expenditures have been given to preserve it as an exacting monopoly. This journal is compelled to pay a cent a word for columns of its special news from day to day, not because it is a fair compensation to the capital and legitimate expenses of furnishing such facilities, but because there are no competing lines between the chief centres from which enterprising newspapers must gather important news for their readers. Competing lines between this city and New York, Baltimore, Washington, Harrisburg, Pittsburg, etc., were glad to perform the same service for half the price exacted by the Western Union Company, but its enormous capital enabled it to buy out competitors and when bought out, it has promptly imposed the cost of regaining the monopoly upon the trade and the press of the country. That such a policy must at no distant day bring irretrievable disaster upon the Western Union Company, should have been apparent to any direction not stone-blind with greed, and only such suicidal folly could have made a field for Jay Gould to occupy. And he will succeed simply because the Western Union has given him the largest possible latitude for success and because it will pay him better to prosecute his enterprise than to

sell out and stop. He knows that cheap telegraphing is an absolute necessity to our progressive people, and that with only legitimate capital invested in it, there will be large profits on half the business of the country at half the present rates. He knows that he can perfect his lines in a few months to reach every important point; that the use of the telegraph can be multiplied almost indefinitely by cheapening it to all classes, and that he can allow the Western Union all the business it now commands as a complete monopoly, and build up a vastly greater patronage for a cheap line, based on actual capital, and surpass the Western Union dividends to stockholders. All these incalculable advantages have long been within the reach of the Western Union Company, but it has denied cheap telegraphing until cheap telegraphing is likely to deny the Western Union. However long or short may be the battle between Jay Gould and the telegraph monopoly, and however they may bargain or barter with each other, a reduction of fifty per cent. in telegraphing is certain to come, simply because a monopoly in the diffusion of intelligence cannot be maintained against the interests of a free press and a free people.—*Philadelphia Times.*

A Few Easy Questions and Answers.

What is a plug?

A man who never breaks—except when he 'don't get it.'

Is it possible to suppress the plug?

No. He has been imprisoned in many strongholds, but his habits are so confirmed that he is always sure to break out again.

What are his most striking characteristics?

He is extremely modest, yet confident; understands the business thoroughly, but is not intrusive with his knowledge; doesn't say much about what he has done in the past, but gives you to understand that, when the opportunity presents itself, you may prepare to be astonished in the future.

What does he think of his prospects as to obtaining an independence?

He has not been guilty of any thought on this point yet; is only too happy to be allowed to guide the lightning in its alphabetical career, and, were it not for his boarding-lady, would scorn to receive any compensation whatever.

Does he generally spend his life in the business?

This is rather difficult to answer; but sometimes fortune favors him with a sudden awakening as to his proper vocation, and he eventually becomes a successful railroad king, wealthy broker, or powerful director—and more times he doesn't.

What is a first-class man?

One who can't be rushed, who can copy one hundred and fifty words behind, and who would rather guess a thousand times than break once.

Is it possible to surpass him?

No. His position is so elevated, his experience so varied, and the glory of his past career casts such a bright effulgence around him, that he not only cannot be approached, but, like the noonday sun, must be gazed at through a dark glass!

What are his most noted peculiarities?

A love of story-telling, of which he possesses an unlimited supply; a love of travel, in which he indulges to a large extent; and a supreme contempt for any one who doubts his veracity or ability.

Is he domestic in his habits?

Well—not to any appreciable extent; hasn't got any particular leaning toward the side of economy; believes in having a good time to-day, and the same to-morrow, and generally succeeds, according to his own conception of what constitutes enjoyment.

What is his ultimate end?

If consumption (this is used in its broadest application) doesn't hurry him along to an early grave, he generally winds up his later days in some large office, as an oracle to the younger men, and a respected veteran to the older.

When Edison gets shoaled on any new invention, he goes back to first principles and improves the telephone.—*New Orleans Picayune.*

The Kansas City Telephone Exchange has already about 100 miles of wire in operation—about the same number as the Western Union in the same city.

THE OPERATOR A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY

W. J. JOHNSTON, - - - Publisher.

August 1st, 1879.

THE American Union expects to be able to open for business about the first of October.

WORK is progressing satisfactorily on the American Rapid line between New York and Boston.

Two months ago, when the American Union Telegraph Company was first incorporated, Western Union stock was quoted at 114½, and A. & P. at 39. To-day Western Union is selling at 90½, and A. & P. at 35½.

MR. E. W. FARNHAM, an old telegrapher, now in the employ of Adams' Express Company, at Chicago, advertises in this issue a remedy for writers' cramp, which is highly spoken of by those who have used it. Two testimonials are given with the advertisement. Those of our readers suffering from this malady will do well to communicate with Mr. Farnham at once, and give the remedy a trial.

"B's" letter in this issue will find an echo in many hearts. It is pleasant to think that telegraphers are about to be released from the iniquitous thralldom under which they have for many years groaned, and that at last the giant monopoly is to have a rival it cannot gobble up, and which is sensible enough to see that a due regard for the interest of both customer and employee is necessary to command success.

WE are glad to see that Messrs. R. K. Pearce & Co., of Philadelphia, have found their old quarters at 54 South Fourth Street too small to accommodate their increasing business, and have been compelled to remove to the large building 38 South Fourth Street. Mr. R. K. Pearce, head of the firm, is a well-known telegrapher, and his many friends in the profession will be pleased to notice this evidence of his success in business.

MESSRS. JEROME REDDING & Co., of Boston, have reconstructed their advertisement announcing a reduction in prices of telephone supplies—bells, switches, insulated and line wire, insulators, brackets, batteries, etc. Messrs. Redding do a large business in telegraphic and electrical supplies, and at a small profit. Those desiring anything in their line will do well to send for their new catalogue, just published.

THE beautiful poem, "On the Border," published in this issue, was written by our contributor "Sumac"—whose very able articles on "What Shall we Read?" will be remembered by OPERATOR readers—at a time when he supposed himself nearing that great bourne whence no traveler returns. Fortunately, however, his days have been lengthened, and we hope we shall yet have the pleasure of reading many interesting and instructive articles from his graceful pen.

The American Union Company

The progress of the American Union Telegraph Company has been even more marked during the past two weeks than at any time since its organization. Lines are being built in every direction, although the Western Union feels disposed to throw every obstacle it can in the way of its enterprising young rival.

Work has been commenced on a new double wire line from New York to Montreal, which is to be completed within sixty days. Poles have already been erected from New York to Saratoga, and the wire is now being strung, while a line is in operation between Montreal and St. Armands, Quebec, a distance of 70 miles, so that only the link between St. Armands and Saratoga has to be covered to complete the connection. The contract for this section of 180 miles has already been given and the work is progressing rapidly. The line will go from St. Armands, via St. Albans, Burlington, Rutland, and Whitehall to Saratoga.

The American Union experienced much difficulty in building its line through New Jersey. At Newark the poles were torn down at the instigation, it is said, of the Western Union, but the trouble was soon overcome.

It broke out again at Rahway, however, and after being adjusted there, was renewed at other points. The American Union people say that they had the verbal consent of the property holders along the route, but that agents of the Western Union afterward went among the farmers, and, by liberal distribution of money, endeavored to induce them to withdraw and withhold their consent. The American Union thereupon had James L. Shaw, James G. Smith and G. S. Mott respectively vice-president, general superintendent and superintendent of the Continental Telegraph Company, arrested at Rahway, and bound over in \$1,000 bail each, to appear for trial in October, on a charge of conspiracy to obstruct commerce and corrupt good morals in impeding the building of the American Union Telegraph Company in New Jersey. Charles Middleton and his brother Edward of the same company were subsequently arrested and held in a similar amount on the same charge. The new company offers five hundred dollars reward for information that will lead to the conviction of any person interfering with its property.

It seems that, after all, the Continental line has been absorbed by the Western Union; and the latter company uses the Continental to fight the American Union, just as it employed the A. & P. a year ago to make war upon the Continental. As the laws of Pennsylvania forbid the consolidation of telegraph companies, the Continental has still a nominal existence as an independent corporation, but the rates between New York and Philadelphia, have gone up to what they were before the advent of the Continental, and it and the Western Union work harmoniously together.

But it is not in the east alone that the new company has met opposition. The Western Union recently applied for an injunction against a new line operated on the roadway of the St. Louis, Kansas City, and Northern Railroad, a line lately consolidated with the Wabash, one of Jay Gould's roads, on the ground that the Western Union has a contract with the road, under which the latter agrees to permit no other telegraph to be operated along its line, in return for which concession it gets its own telegraphing free. The

State Court refused to grant the injunction, basing the refusal on a Missouri statute which forbids a corporation to grant an exclusive right of way to any one telegraphic corporation; but the Western Union will appeal to the Federal courts, and perhaps have better luck there.

MR. J. E. ZEUBLIN, late night manager of the Philadelphia Western Union office, and a gentleman of much telegraphic experience, has been secured as manager of the new company's Philadelphia office. In an interview with a Philadelphia reporter, Mr. Zeublin gave much information in regard to the new company that will be interesting to telegraphers as well as the public.

He says that a larger number of miles of new wire is being strung by the American Union Telegraph Company to-day than were ever before erected in the same time in this country. Having contracted their lines in thirty mile sections they are now pushing the work from Omaha to Boston, expecting within sixty days to be in complete working order, with at least four wires between all the principal cities east of Omaha and north of Washington, Louisville, and St. Louis. At Omaha they connect with the Union Pacific lines, giving them the same facilities to the Pacific coast that their competitor enjoys. They have also leased the Dominion line, in Canada, extending from Torr's Bay, Newfoundland (the cable station), Halifax, N. S., St. John's, N. B., Quebec and Montreal, to Oswego, Buffalo, and Detroit. The new enterprise, he says, has a larger capital than any previous competitor of the Western Union, is officered by old Western Union officials, men who are head and shoulders above everything electrically to be found in the Western Hemisphere, and is largely owned and operated by a combination of all the railroad interests opposed to Vanderbilt, who, as is well known, owns or controls a majority of the Western Union stock.

It is not to be wondered at, continues Mr. Zeublin, that the expression, "new telegraph company," naturally excites the remark, "to be purchased by the Western Union," but it is certainly gratifying to be able to state that we are soon to have a first-class, wide-awake opposition telegraph company that will be permanent, and, being a fixture, will be of incalculable advantage to the business interests and commercial prosperity of the country. In this connection two things are self-evident. It must remain independent and transact and compel the Western Union to transact correctly the telegraphic business of this country with great expedition and at small cost, or compel the people to risk a possibly greater evil—the government telegraph—in order that business shall be developed and encouraged by promptness and cheap rates instead of being thwarted or crushed by reverse methods. A careful history of the whale-like policy of the Western Union in all its grand swallowing shows that the result was reached through one of three causes—lack of capital to withstand the cutting of rates or division of business; mismanagement or a willing sacrifice of stockholders' interests for the individual gain of prominent officials; erection of lines by telegraphic engineers to secure compensation for services and advance on investments. That the American Union cannot amalgamate with the Western Union for any of these causes is demonstrated by the wealth of six of its pro-

jectors, which exceeds \$100,000,000; also, for their discrimination in not only selecting, par excellence, the finest telegraphic ability in the country for their chief executive officers, but the best operating talent that money can secure for management of their various offices throughout the country.

The combination of railroads opposed to the Vanderbilt roads carries the railroad war into the telegraph system of the country, and we have what seems positive assurance that until one trunk line absorbs the other—which we will never live to see—the telegraph systems will remain separate and distinct organizations.

The projectors and officers of the new company have long been on the inside, and, from a Western Union standpoint, have seen that an enterprise that warrants the purchase of every line in this great land, be it good, bad, or indifferent, at any cost; that will load up with a thousand financial leeches, in the shape of unprofitable municipal lines, broadcast franking privileges, worthless telegraphic inventions, and taking high-priced telegraphic official fossils, barnacled to opposition companies in their bill of sale, that can then distribute a 17 per cent. surplus and an additional $7\frac{1}{2}$ per cent. within one year—with the majority of the business men antagonized to them—readily perceive that, with gilt-edged work at reduced rates by the best telegraphic talent of the land, on staunch No. 1 wires, constructed cheaper than telegraph lines were ever before constructed in this country, they must secure at least sufficient patronage to aid the business interests of the country, leave the 17 per cent. slices in the hands of the merchants, and secure a fair remuneration for their investment. They are the kind of men at the head of the American Union Company.

Telegraph Superintendents and Telegraph Colleges.

An old-timer of Pittsburgh sends us a circular of the Janesville "Western School of Telegraphy," and asks "how it is that the Western Union officials indorse this fraud." We really do not see how it is possible, in the present condition of the telegraph business in this country, for any man of honor and integrity to lend the influence of his official position to the procuring of fresh victims for these "institutes." Every superintendent knows that the lower ranks of the profession are entirely overcrowded, and likely to remain so for years; and he who allows his name to be paraded in print by an unscrupulous mountebank, for the purpose of a swindling thoughtless young men and women, must either do it without due consideration, or is a bankrupt in everything that goes to make a man honest, upright, and conscientious.

The circular gives an account of an interview—"meeting," it calls it—held in March, 1877, in the office of Col. Wilson, Superintendent of the Western Union Telegraph Company at Chicago, between the Valentine brothers, C. W. Jones, Col. Wilson, and three railroad superintendents of telegraph, in which an effort was made by C. W. Jones and the Messrs. Valentine to get the superintendents to employ the Janesville "graduates," after they had been for some time "qualifying" themselves in the offices of the Metropolitan Company.

According to the circular "The different superintendents all said that such an arrangement would be very satisfactory to them; that they often

wanted operators at a moment's notice, and had trouble finding them."

Oh! yes, we all know the months of weary waiting that a superintendent has now-a-days before he can find an operator when he wants one, and how he has to scrape several States with a fine-tooth comb before a lightning manipulator, of even the proficiency of a Janesville graduate, can be obtained. It is just possible that Valentine, Jones & Co. had a liberal lunch for these high dignitaries, and that the great men promised employment to the graduates—if they promised at all—without for a moment intending to go out of their way in the matter of keeping their promise. The Valentine brothers, however, make the most of the advertisement by adding to the report:

"The advantages to us of such an arrangement can readily be seen, giving us as it does an almost unlimited outlet for our students and connection with over 10,000 miles of line. The importance of these arrangements to ourselves and our students cannot be over-estimated. By them we are enabled to place our graduates in a direct line of certain promotion to profitable employment. We congratulate ourselves, our students, and those who intend joining us, upon our success. It has only been attained after years of untiring effort, in the face of almost insurmountable obstacles. It places us at once far above competition from the swindling concerns spoken of above, and will enable us, we hope, to prevent them from doing any further mischief."

That sounds very nice to the uninitiated, and it is not much wonder that a dupe is here and there found, who, believing that the matter is exactly as stated in the circular, is induced to throw away his money, not to speak of his time, to learn a business that he soon afterward finds out is already so much over-crowded that he is unable to obtain a situation on any terms.

More Yellow Fever.

WE regret to announce that yellow fever has once more made its appearance at the South. At the time of going to press, only one telegrapher—Brooks Wilson, train dispatcher of the Mississippi Railroad at Memphis—was reported sick. He, however, is very low, and his case a malignant one. The morning papers, last week, announced the death of a telegraph operator named Wilson, at Memphis; but Vice-President Van Horne, to whom all cases of sickness or death of Western from yellow fever Union operators are reported, by telegraph, has no information on the subject, and thinks that if any operator has died, he could not have been in the employ of the Western Union.

John B. Spaulding, an operator who volunteered from Baltimore during the epidemic last summer, was fatally sunstruck at Memphis, July 12.

The amount collected last year in aid of telegraphic sufferers from the yellow fever was \$12,909.33. Out of this, \$11,072.48 was expended, aid being extended, not only to sick telegraphers themselves, but to the widows and families of those who died. There is, therefore, a balance on hand of \$1,836.84 for use this year, should aid be required.

It is hoped, however, that the yellow fever will not be very severe this season; in fact, it is believed by many that the worst is already over. We fervently hope that we shall not be called upon to chronicle the death of another telegrapher this year, from the dread pestilence.

WHEN THE OPERATOR was first established, its motto was "We chronicle but Friendship," a motto which it has never since lost sight of. It is much more agreeable, anyway, to praise than to criticise, and as Whitelaw Reid says, readers prefer that a paper's natural attitude should be kindly, and its prevailing tone one of good humor. There are occasions, however, when criticism becomes necessary, and we hope THE OPERATOR, while it regrets the necessity, will always be found ready to expose an injustice or abuse of authority. We to-day publish two articles criticising the conduct of respectively a manager and a train dispatcher. Each of these men, we are assured, is a disgrace to the profession, and we can only hope that a little of the bright sunlight of publicity may benefit them, as permitting them to see themselves as others see them.

AN old timer, who served his country as a military operator during the war, asks us to start the ball rolling toward procuring pensions for the military telegraphers. He thinks that those who served in the field are entitled to a pension, and if placed in proper shape, believes that the matter could be successfully carried through. We should be glad to see an effort made in this direction, and anything THE OPERATOR can do to further the good cause, will be done cheerfully. Let some of the old military telegraphers themselves take the matter in hand, and see what can be done.

THE salaries of four first-class men in the Ogden, Utah, office, were recently cut down from \$90 to \$80 a month, the powers that be probably desiring to create a favorable impression at headquarters by inaugurating a little local "grade" of their own. The men, however, resigned in a body, rather than submit to the reduction. They were afterward offered five dollars a month more, but would not remain at less than their old salaries. Thus the matter stood at the time of our last advices.

THE best telegraphers in the country have been "marked" by the American Union, and as soon as the company is ready for business will be offered responsible positions at good salaries. And few, indeed, will be those who will regret to leave the service of the Western Union. Never, perhaps, in the history of America, has any corporation so thoroughly earned the ill-will of both its employes and the public as has the grasping, selfish, insatiable monster known as the Western Union.

In reply to several inquiries for the address of the superintendent of the newly-formed American Union Company, we would say that Mr. C. S. Shivelier is local superintendent, and Mr. D. Doren, general superintendent. Applications for situations can be made to either of these.

A great deal of talent is lost in the world for the want of a little courage. Every day sends to the grave a number of obscure men, who have only remained in obscurity because their timidity has prevented them from making a first effort, and who, if they could have been induced to begin, would in all probability have gone great lengths in fame. The fact is, to do anything in the world worth doing, we must not stand back shivering and thinking of the cold and the danger, but just jump in and scramble through as well as we can.

Cardinal Threemby on the Fall of the Western Union.

Farewell, a long farewell, to all my greatness!
This is the state of telegraph monopolies:
To-day, they gobble up the last surviving rival;
To-morrow, hoist the rates, and "grade"
The compensation reluctantly paid their galley-slaves;
The third day, comes a blighting opposition,
And when they think—good crazy Executive Committee!
That it is about time to take another slice,
And that the price of stocks will certainly
Advance another two or three per cent, at least,
This impertinent upstart appears upon the scene,
And stock goes reeling down to ninety,
While all the first-class talent in the business
Is enrolled under the usurper's banner
At living salaries.
Thus falls the giant monopoly, like Lucifer,
Never to hope again.

Telegraph Officials and their Subordinates.

"If you want to find out the ruling passion of a horse, feed him high on oats," is perhaps one of the truest sayings of that great humorist, Josh Billings. It is just so with mankind. Make some men prosperous, give them power and authority, and every mean trait in their character will come to the surface.

The reader has doubtless heard of the Paducah and Elizabethtown R. R. in Western Kentucky. The Dispatcher and Supt. Telegraph on this line—out of kindness we withhold his name—has been in his present position but little more than three months, yet long enough to become odious to every man in the service. He had been clerk for the former Supt. Telegraph. His predecessor was a gentleman in every way worthy of the high position he held, but he, like many others, fell a victim to that dread enemy of our profession, consumption. The first act of the present incumbent's official administration was the greatest piece of presumption and bold assurance of which I have ever heard. As soon as the death of his predecessor was generally known, and three weeks before his (the present incumbent's) appointment to the place, he began signing his name to all official documents emanating from that office, and the men had either to obey or leave the service. This was the beginning of an administration which has ever been unjust and odious, and which, if continued, will do incalculable injury to the fraternity in this part of Kentucky. He has proved himself by his actions to be a man of small "calibre" but a great deal of "bore." If he ever says a pleasant word to his men, he does it under protest. If one of them makes a plain statement of facts in regard to business matters, he is always ready to believe that he lies about it, and tells him so. It is not infrequently the case that he ridicules and unnecessarily torments and every day abuses and swears at them over the wire. He seldom misses an opportunity of rushing the unsuspecting operator, which, considering that he himself cannot take more than 15 or 20 words a minute without breaking, is a little inconsistent with his official dignity. It requires the most persistent effort to get a civil reply to a question, and then it seems as if it were given unwillingly. He is actually so contrary that it is my honest conviction that if he should fall overboard he would insist upon floating up stream. To sum up, he is exceedingly arbitrary and unaccommodating; he has no confidence in, nor respect for, his men; he abuses them unmercifully, because he knows he can; he misses no opportunity of rushing and confusing a subordinate, and makes it unpleasant for every one over whom his jurisdiction extends. Yea, more than this, he is by example and precept creating and cultivating a malevolent and irreverent disposition among his operators. He is, by extortions and impositions turning them against the great profession of which you and I have the honor to be members. Can he be so blind as to be wholly unconscious that such is the case? It is patent to all observers that he has not stopped to consider, and even if he had, we are forced to believe he would not really care.

We cannot afford to have such degrading influences at work among us, and as long as there is a superintendent of telegraph in the country whose mal-administration is bringing about such disastrous results to the fraternity, I will lift up feeble voice against him. Men who are placed in positions of responsibility and influence, should be held up before us as models of excellence and fairness. They are in reality the moulders and architects of the fortunes and feelings of subordinates under their charge. If the functions of their high offices are

misapplied, it will bring about unpleasantness and dissatisfaction among all those to whom their unwholesome influence extends. This dissatisfaction amounts not only to a hatred of the officers themselves, but to a desire on the part of the telegrapher to quit the profession, and go at something else, where he will be, at least, respected. Thus the best talent is driven from the profession, and the plug who cannot get a situation at anything else is left to bring our noble calling into disrepute. The profession cannot be upheld with such antagonistic influences at work within its domains. These influences, though apparently small considerations in themselves, are slowly but surely undermining and subverting the foundations upon which our success as telegraphers depend. We should be knit together by indissoluble bonds of friendship for one another, and an unalterable attachment to our calling. If these ties of friendship are severed—if this attachment to our calling is broken, we are no longer a fraternity, but a disunited organization whose members will drop out at the first opportunity. It may be said, without fear of successful contradiction, that one-half—yes, two-thirds—of the telegraphers of Western Kentucky would to-day leave the profession if situations were obtainable in other callings. And why? There must be some way of accounting for this dissatisfaction. It is merely because there is something in the profession that is disagreeable and distasteful; because good conduct and careful, painstaking, conscientious work on the part of operators do not receive the recognition they deserve. Superintendents must remember that operators are not slaves to be ruled by fear, but men to be ruled by reason and judgment. Much more could be said upon this subject, but through a consideration for your space, I refrain. Let us hope that superintendents will give this subject the attention it deserves. It is in their power, by a thoughtful and conscientious administration, to inspire zeal and energy in the breasts of their operators, to create and foster a love of the profession, and finally, by doing this, to subserve the best interests of themselves, the company, and the employee. In conclusion, I have merely to say, "should the party who is the subject of this article demand substantiated details of implied or declared offenses, they will be forthcoming."

LOUISVILLE, Ky.,

July 22d, 1879.

To "Many," Buffalo.

Your cry is an echo from the hearts of a large number of others beside yourselves. Many more have been promised, and denied so regularly that their complaint has died out and been forgotten, and the inevitable accepted. Baited with lollipops and whimsical promises, lots of us have been caught and lulled to sleep for the time being, until the complaint had become stale, and it might safely be met with: "Oh, dear me, it's too late to think about that now; besides, it's impossible to do anything in the matter without the consent of the Executive Committee, and of that there is no hope!"

There is only one thing to be done under the circumstances. It is time to realize that we are out of the nursery, and paddling our own canoe, and that whatever we wrest from the hands of the giant must be done by a straight-up, gallant struggle.

The question of low salaries is a purely business one. It occurred to the W. U. T. Co. that they had a parcel of children to deal with; that they might just as well make a few millions out of them as not.

"We will not do this so as to frighten them," said they, "because they *might* give us some trouble. We will just creep up on them, as it were, and with a little soft soap and lies take away five dollars at a time, until we leave them with barely enough to live on. They are such idiots they won't realize what the matter is until the thing is done, and then they won't have the manhood to resent it."

It is said that one man was the means of bringing about all the reductions, under their several synonyms. There is little doubt that this is a fact. His suggestion to the President speedily resolved itself into an active measure, and now we stand arrayed 15,000 strong against a mighty bugbear in the shape of Vanderbilt, Mills & Co., represented by their henchmen, all the way down from Executive Committee to manager. It is as useless

to appeal to managers as to messenger boys, because, in all but the performance of this great clique's dirty work, they are of just as little account. I doubt not that many of us know of their having done acts that would cause a second-hand Jew to blush. This, however, they are paid for. They are picked out in view of their special fitness for the office of a flitcher, and, where we find one particularly assiduous in the performance of this duty, he becomes an eyesore to all under him. We must not raid against him, however, because he is simply doing his duty to himself and his owners. He gets ten per cent. for doing nothing, and ninety per cent. for casting aside all feeling for those of whom he was once one, and for waging a relentless war against them.

We may by this time understand that promises are deceitful lies, given without any intention of performance. That so long as we are willing to sit down contentedly and accept the situation, we may do so with no thanks, and still further curtailment of our incomes whenever the opportunity occurs.

One of the most familiar rules of business is, "Get all you can for the least possible outlay." This rule the Western Union never transgresses.

It is our privilege and duty to ourselves to follow up the same principle. We have the weightiest engine known to the commercial world with which to back up our demand for adequate compensation. If we are willing to give up from \$20 to \$30, or even \$50 a month, without a single effort to regain it, we are unworthy the power we possess, and deserve all the retrenchment by which we suffer.

Let us then, like men, make no puerile appeals to a source from whence comes nothing but what is wrung from it; but, like intelligent people, demand at the proper time what we are entitled to, and see that it is forthcoming.

It depends entirely upon ourselves whether we receive porters' compensation or the compensation due to the responsible positions we occupy.

That we are willing to squirm and wriggle under the heel of that little "penny-grabber" in New York, and his several men Friday, is a disgrace to us.

July, 1879.

Pacific Coast Notes.

As is usual about this season of the year, there is an increase in business as far as the telegraph is concerned. There is considerable activity in the stock market, and this contributes more than any other cause to the demand for a quick method of communication with distant points, which as yet nothing but the electric telegraph and the Morse system furnishes. In the San Francisco Office, Messrs. McGuire and Boynton have been put on extra duty. The former has been on the coast but a few months; the latter is a popular "old timer," both good operators and valuable acquisitions to the force.

The summer having come, there is a universal desire among operators to get out into the mountains and "recuperate," but probably only a few will be able to indulge in that luxury. Our popular day chief, "Bob" Hamilton, is one of the fortunates in that respect. His place is being temporarily filled by night manager Drake, into whose shoes our solid man Donnelly has stepped for the time being, while our genial friend "Buffalo" Bowker is working the night trick.

We hear of but few changes taking place in the "personnel" of outside offices. Mr. Decatur has been transferred from San Diego to Los Angeles, an addition being made to the force at the latter place. Mr. Venton, one of the old "S. F." reliables, is now manager at Maricopa, Arizona, a place that has sprung into existence within the last few months, it being the temporary eastern terminus of the S. P. R. R., about 150 miles east of Yuma. Maricopa is now a "repeating" office, Western Union business being transferred to and from the U. S. Military Line at that point, instead of at San Diego as heretofore. Mr. Thompson, manager at San Diego, visited the metropolis recently. That "wonderful climate" down there apparently agrees with him, for he scarcely looks a day older than he did five or six years ago.

Another novel wedding by telegraph is reported, this case having more of the merit of originality than those affairs have lately possessed, from the

fact that the contracting parties are not telegraphers, but uninitiated outsiders, who, probably acknowledging the fact that marriage is somewhat of a lottery under the most favorable circumstances, concluded that the risks could scarcely be increased by having the matrimonial knot tied by electricity. The bride, accompanied by a minister, stepped into the office at Newark, N. J. The clerical official wrote out the all important interrogatory, and had it transmitted over about four thousand miles of wire to the would-be-benedict, who was impatiently waiting in the telegraph office at Los Angeles, Cal. He, upon its receipt, wrote out the affirmative answer, requested the operator to subscribe to it as a witness, and back over the four thousand miles the answer flashed to the expectant and presumably blushing bride, who, whatever the duration of the courtship, could at least claim the destruction of a marriage eight thousand miles long! It is to be hoped for the sake of poor relatives who frequently count upon getting a share of the wedding feast on such occasions, that the above style of ceremony will not come into universal usage.

A Telegraph Feat for which a Gold Medal was Awarded.

A few days ago the death of N. J. Snyder, a telegraph operator in the employ of Drexel & Co., bankers, was announced by telegraph. This has recalled to the telegraph men some of the remarkable feats that gave him the rank of the fastest receiving operator in the country. Mr. Snyder, when a boy, learned the business in the employ of the old American Company. He soon rose in his business, and during the war was in active service, and received many of the startling dispatches of the period. He became noted for his speed, and in the winter of 1867 was selected to receive a test dispatch from New York by the Morse instrument. The test was to determine the capacity of the instruments, and was watched with the utmost interest. The fastest transmitting operator who could be found was located in New York, and Mr. Snyder was stationed in this city to receive the despatch. The matter selected was the speech of Mr. Bingham on reconstruction, and contained 2,510 words, averaging four letters to the word. In receiving matter by the Morse instruments the operator determines the letter by the sound and transmits it to paper as fast as it comes in. Ordinarily the despatch can be sent much quicker than it can be received, but in the case of Mr. Snyder this was not so. The test despatch was telegraphed in one hour, and on an average of forty-two words to the minute. It will be noticed by attempting to write this number of words a minute that it is no easy task without the work of detecting the sound, while it requires a double use of the brain at the same time. This was the most rapid telegraphing on record. Mr. Morse so appreciated the performance that he struck off a gold medal, appropriately engraved, and presented it to Mr. Snyder.—*Philadelphia Record*.

The Williams-Allen California Case.

The now famous Williams-Allen case, or "telegraph" case, as it is called, in which the defendants moved for a new trial, was taken under advisement by Judge Denson, who decided to grant a new trial unless Williams would accept \$250. The case comes up for trial again in August. Mr. Allen still holds his position as manager, and is likely to do so. Indeed, he boasts that Mr. Gamble dare not discharge him. It is a well known fact that Mr. Allen has opened employees' letters, and even taken a check out of one, cashing it, and appropriating the money. When accused he did not deny this, but begged for mercy, and prevailed upon the owner not to expose him. He is indebted to a large amount for board, etc., and on collection days will either not come to the office, or else lock himself in his private office, giving instructions to admit no one with a bill. He has given away the contents of stock messages, and even tried to bargain with a broker here to carry stocks for him, and he in return would furnish points obtained from private messages. Mr. Gamble is well aware of these irregularities. The common report is that Allen has some "hold" on Mr. Gamble, or he would have gone long ago. I would call the attention of Mr. Green to affairs on this coast. A thorough investigation is much needed.

JUSTICE.

For several years the August or Midsummer *Scribner* has been an unusually attractive number. The present Midsummer Holiday number is no ex-

ception, and contains among other things a portrait of John Greenleaf Whittier, with biographical sketch of the poet by Mr. R. H. Stoddard. The opening paper is called "Whittier in Painting and Etching," copiously illustrated, followed by "Summer Etymology," "The Cook of the Confederate Army," "Our Archery Club," and a dozen others equally as readable. Those who are not regular subscribers of *Scribner* can obtain copies of the Midsummer Holiday Number of newsboys or at newsstands at thirty-five cents a copy.

Keokuk, Iowa, Notes.

The second annual regatta of the Mississippi Valley Amateur Rowing Association took place July 15th, 16th, and 17th at this city, on the Government canal, which extends northward from here, around the Des Moines rapids of the Mississippi river, a distance of ten miles. It was a sporting event of unusual brilliancy and success, the three days' sport being witnessed by thousands of people from abroad, who, with our citizens, made up immense crowds, which thronged the grand natural amphitheatre of hills along the southern bank of the course, the grand stand, the excursion steamers lying outside, against the river bank of the course, and the C. B. & Q. regatta train, which ran up and down the course, following each race from start to finish. This course is described by sporting and boating men of experience as the finest artificial course in the United States, unless it be the famous Owasco course in New York. The distance from the business portion of the city to the grand stand is about two miles. A telegraph office was established at the latter place during the races, under the management of Mr. W. A. Howard of the C. B. & Q. The Rowing Association had for their private use a telephone circuit connecting their up-town office, the boat houses, turning buoy station, and commodore's station. The races being mostly one mile and return, the turning station used the telephone to notify the commodore and time-keepers of the order of turning, time, etc. The telegraphic fraternity seemed to take especial interest in the excitement, and neighboring cities and towns turned out a large delegation of the craft to witness the sport. Wm. Spink, an old telegrapher and present night editor of the *St. Louis Globe-Democrat*, and his brother, A. C. Spink, of the *Republican* corps of that city, were among the special reporters in attendance. Our special matter averaged about 10,000 words nightly, besides a large amount handed by Mr. Howard at grand stand during the afternoon, and our little force of manager, two operators, and clerk were kept busy almost night and day. There were some fifteen clubs represented from Chicago, St. Louis, Davenport, Minneapolis, St. Paul, Detroit, and elsewhere. In the free-for-all four-oared shell race the famous Shewae-cae-mettes gave a fine exhibition of strength and skill, winning their race easily. Repairmen from Chicago and our local force of repairers are putting up quite an extensive telephone exchange that will be in operation by the first of August. Our sister city, Quincy, Ill., is also being supplied with an exchange of fifty or sixty offices.

Mrs. Mc.

Platinum and the Electric Light.

We stated last issue that the high price of platinum might interfere for a time with the introduction of the electric light. From the following letter, dated from the laboratory of T. A. Edison, Menlo Park, N. J., July 16th, it will be seen that the price at which burners can be made is now only a fraction of a dollar, with a probability of becoming still less: "In your issue of July 15th I see it stated in a leading article that the cost of Edison's electric lamp is from \$10 to \$12. This is a great mistake. At the present price of platinum and iridium the burner would cost 55 cents. Mr. Edison considers it too expensive, and desires to reduce the price more than one-half of the above figure, and, from the present outlook, judging from the favorable replies to the platinum circulars which have been sent to miners on the Pacific coast, his success in that direction is assured. I also wish to correct a statement which appeared in this same paper to the effect that Edison had given Mr. Bennett his

Gramme generator for the yacht "Jeannette," now en route to the North Pole. Mr. Edison gave Mr. Bennett one of his own generators, the first one he constructed. By giving publicity to these corrections you will greatly oblige, S. L. GRIFFIN.

Themes for the Thoughtful.

The key to every man is his thought.

Appointments once made become debts.

Feeling is no criterion of right or wrong.

Adversity is the balance to weigh friends.

Ignorance is a subject for pity; not laughter.

A knowledge of mankind is necessary to acquire prudence.

Choose those companions who administer to your improvement.

Truth is hid by great depths, and the way to it does not appear to all the world.

Conversational powers are susceptible of great improvement by assiduous cultivation.

The friendships of youth are founded on sentiment; the dissensions of age result from opinion.

Flowers sweeten the air, rejoice the eye, link us with nature and innocence, and are something to love.

The business of life is to go forward; he who sees evil in prospect meets it on the way; but he who catches it by retrospection, turns back to find it.

Affections, like spring flowers, break through the frozen ground at last, and the heart, which seeks but for another heart to make it happy, will never seek in vain.

Mountains never shake hands. Their roots may touch, they may keep together some way up, but at length they part company, and rise into individual, isolated peaks. So it is with great men.

The beginning of hardship is like the first taste of bitter food—it seems for a moment unbearable; yet, if there is nothing else to satisfy our hunger, we take another bite and find it possible to go on.

A great mind is like an elephant in the ancient line of battle—the best ally if you can keep him in the ranks, fronting the right way; but if he turns about he is the deadliest foe and treads his master underneath his feet.

In young, childish, ignorant natures there is constantly a blind trust in some unshapen chance; it is as hard to a boy or a girl to believe that a great wretchedness will actually befall them, as to believe that they will die.

How many take a wrong view of life, and waste their energies and destroy their nervous system in endeavoring to accumulate wealth, without thinking of the present happiness they are throwing away. It is not wealth or high station which makes a man happy. Many of the most wretched beings on earth have both; but it is a radiant, sunny spirit which knows how to bear little trials, and enjoy comforts, and thus extract happiness from every incident in life.

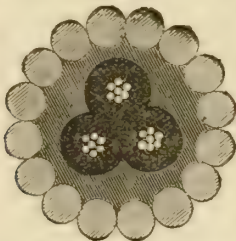
The earnest men are so few in the world that their very earnestness becomes at once the badge of their nobility; and as men in a crowd instinctively make room for one who seems eager to force his way through it, so mankind everywhere open their ranks to one who rushes zealously toward some object lying beyond them.

Our fears ever multiply our difficulties, increase our perils, and dissipate our strength. While we cleave to that which is good, God cleaves to us. The inspiration which flows from His conscious presence and loving help will carry you through every duty, every danger, and every trial. Do valiantly; act with courage, decision and faith, for God is with you, and in Him you will ever find a present help in every need.

In common life don't you often judge and misjudge a man's whole conduct, setting out from a wrong impression? The tone of a voice, a word said in joke, or a trifle in behavior—the cut of his hair or the tie of his neckcloth may disfigure him in your eyes; or at the end of a year's intimacy it may be your closest friend reveals something which had previously been a secret, which alters all your views and motives. And if it is so with those you know, how much more with those you do not know.

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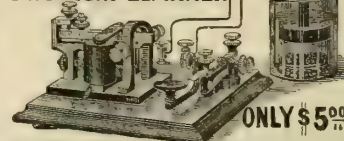
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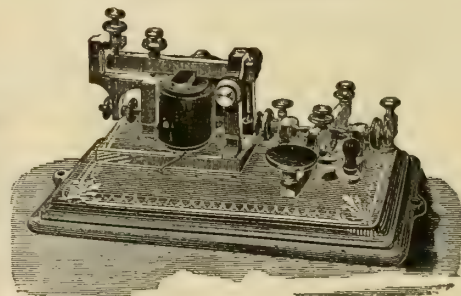
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The OPERATOR

A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY.

Vol. X.

NEW YORK, AUGUST 15, 1879.

No. 16

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THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY.

August 15th, 1879.

Volume X.

Whole No. 132.

In Memoriam.

INSCRIBED TO THE MEMORY OF A. D. BONNELL.

'Neath the velvet grass of spring time,
'Neath the newly opening flowers,
While the birds pour forth their carols
In the pleasant morning hours;
While the trees put on their robings,
And the mellow April days
Breathe above the sighs of summer,
And above these sunshine plays—
Thou art resting, sweetly resting,
Fevered dreams of life are o'er,
Day's dull toil and night's long vigil
Vex thee with their car no more;
Folded hands and peaceful slumber,
Closed eyes and silent breast,
Here "the wicked cease from troubling,
And the weary are at rest."

Sleep—thy friends who yet stand waiting
Soon shall slumber by thy side;
Noonday's heat and labor over,
Sweet will be the eventide.
Sleep, my brother, thy long resting
Rise nor set of sun shall know;
Naught to thee is noon or midnight,
Summer's sun or winter's snow.

All that once seemed dark or doubtful
To thy earth-beclouded sight,
Now shall glow with spirit meaning
In the blaze of Heaven's light.
We, thy brethren in the shadow
Of earth's sorrows, wait awhile;
But we soon shall share thy knowledge—
We, ere long, shall with thee smile.

LUDLOW GROVE, O.

W. H. NELSON.

A Leaf from the Biography of P. Fogarty, Esq.

P. Fogarty, Esq., is a young gentleman of Milesian descent; and, during his early years, he took no particular pains to disguise the fact that the blood in his veins was of the same quality and color as that which had on more than one occasion been freely shed upon the fair grounds of County Antrim, and had frequently been spilled in those pleasant little affairs which were the result of the bitter hostility that existed between the Fogartys and the Finegans.

When young Fogarty was one of the brilliant juvenile ornaments of the particular alley in which his parents took up their residence upon coming to America, he answered to the euphonious cognomen of "Pete," and at that time seemed as well satisfied with the name as if it had an aristocratic patronymic such as "Clarence Augustus" or "Albert Henry."

At that period of his existence he was an individual of small pretensions. He had no aristocratic longings, and appeared to be contented with his lot. He sold newspapers, blacked boots, and ran errands occasionally, but more frequently was found to be engaged in various experiments calculated to develop the youthful mind and kill time. There was not a cat in the whole alley which did not minister to his demand for harmless recreation by contributing liberally to the "music of the spheres" in that particular locality, when it pleased young Fogarty to splice two feline tails together. There was not a miserable cur in the limited domain over which he ranged that had not on at least one occasion furnished a caudal appendage upon which to attach a tin can, when young Peter felt disposed to experiment in that manner. Pete was not phenomenally good; in fact he had a narrow escape from being a really bad boy. Had he lived in San

Francisco he would have taken delight in throwing stones at the aggressive Chinaman, and would have enjoyed the proud distinction of being classed as a "Hoodlum," but, in his youthful days, there were not many Chinamen in New York. Eastern philanthropists and enthusiasts had not yet found out what a valuable citizen the Celestial is (at a distance), and so our hero possibly missed the grand opportunity of his life, for he kept on going from bad to worse until at last he became a telegraph operator.

Perhaps it will never be thoroughly understood just how this evolution was brought about. Some of his admirers say that in a moment of temporary aberration he apprenticed himself as a messenger boy in a branch office, where he received the munificent salary of two dollars a week, and gained a brief notoriety by the facility with which he could get the right messages into the wrong envelopes; by going to sleep on the doorstep before instead of after having delivered an important telegram to the party within, and by a general misapplication of energy and lack of discretion.

His enemies (what great man has them not?) aver that "temporary aberration" never bothered him; that whatever was wrong about him still exists and has come to stay, and that one of his paternal ancestors only escaped being hung because he succeeded without much difficulty in establishing the fact that insanity was hereditary in the family. But all this fails to prove that the present scion of that illustrious race is devoid of the ordinary allowance of intellect. On the contrary, his success in the illustrious profession he has chosen is an unanswerable argument in refutation of the malicious sayings that envious "plugs" have given utterance to. History is silent in regard to the early struggles of this child of genius in his efforts to achieve renown as an operator. There is a bare possibility that at one time in the remote past he was a member of the ignoble army of "plugs," toward whom he now exhibits such profound feelings of antipathy; but yet there is something incredible in the idea, too, as it is almost impossible to imagine how such a brilliant electrical "artist" as he now is could ever have been one of those incorrigible beings whom Tennyson so touchingly addresses when he says:

"Break, break, break, thou terrible fiend of the key,
And I wish that I could utter the thoughts that arise
in me,
I wish that the lightning would strike you,
You unfeeling breaker of men,
And break you in several pieces.
So you never could break again."

Our hero claims that he never did "break" except upon one or two occasions, and then it was the fault of the transmitter; that from a messenger boy the transition into a first-class operator was instantaneous, and that he never attempted to work a wire until he had become so thoroughly expert that he was able to do it as well as the best of them. His example in this respect may safely be recommended to aspiring young artists who think that practice is the only thing that makes good operators. That this is not the case, the testimony of P. Fogarty, Esq., satisfactorily proves, and it is amply sustained by the experience of all our "first-class" men, not one of whom can be found to have any recollection of a period in his early professional career when he was base enough to merit the name of "plug."

Since becoming an operator a wonderful change is noticeable in Mr. Fogarty. He no longer lives in the alley where his youthful years were spent, and an old friend of the family who keeps the palatial peanut establishment on the corner, and who sees the young man at a distance occasionally, says, "Och, an' he isn't the same boy at all, at all! Sure, when he used to live with his old mother, jist across the alley like, he used to run around in his little bare feet (though when I come to think of it they weren't so little either.) an' his ragged clothes, with his chubby little face as dirty as you please, an' so independent like. An' now he wears good clothes and struts along as dignified as if he owned New York, an' niver notices a poor mortal like me, at all, at all!" But the subject of her discourse says its a case of mistaken identity;

that he never did live in an alley, and never run bare-footed, which statement is implicitly believed by his friends and discredited by his enemies. At present Mr. Fogarty is as aristocratic a young gentleman as you can find anywhere; he is careful not to associate with any members of the profession who are not strictly "first-class men." An operator who simply ranks as second-class may sometimes be honored by a nod or word of recognition, but third-class operators receive the "cut direct." He measures men by their proficiency with pen and key. He has a theory that operators are born, not made.

I last saw Mr. Fogarty in the Winter of '76, receiving a *Herald* special, which was coming in at the rate of about thirty-nine or forty words a minute. If you attempt to see him with your mind's eye, you must not overlook the carefully cultivated expression of aristocratic dignity, and self-confidence which is so plainly visible upon his countenance. Sometimes when his great mind is troubled by some petty annoyance, such as the frantic and ineffectual efforts of an embryo "artist" to "balance" the other end of the wire, his features lose the artificial expression of self-complacent dignity and become more like those of a common man in moments of excitement. It was probably upon one of these unfortunate occasions that the Poet Laureate wrote the following renowned description of him:

"His features have not that repose
Which stamps the caste of Vere de Vere;
There is that tint upon his nose
Which naught imparts but larger beer."

It must be borne in mind, however, that the P. L. was not entirely unprejudiced in his opinion, being one of the many unfortunate individuals who are envious of the fame and proficiency of Mr. Fogarty as an operator, and who refuse to acknowledge that he possesses any but that one particular talent which enables him to say to the less expert operators upon the wire over which he presides, "I'm P. Fogarty, and about the best key and pen manipulator in the United States, and don't you forget it!" And they don't, for they are periodically reminded of the fact by his reiteration of the forcible but somewhat inelegant slang phrases which have become to be so generally used by members of the craft that they are now universally accepted as a part of the "stock in trade."

Mr. Fogarty is a great man in his day and generation, and he knows it. Some day a grateful country will show its appreciation of his merits and build him a monument. His fellow "artists" in the lower ranks would doubtless do it now if they thought he would be put under it. He is an object of great curiosity to some of the visiting brethren from the country, who make a successful ascension of the numerous flights of stairs leading to the fourth story, and are permitted to disregard the notice of "No admission, etc.," and allowed to take an observation of the mysterious "operating room." Arriving there, the visitor's first inquiry is for the celebrated operator, whose name is in some localities spoken with a strange mixture of awe and admiration. He is pointed out, hard at work, perhaps on the principal wire in the office, and his reverent admirer stands behind him with open eyes and mouth agape, listens in vain to catch a single letter of the words which the great expert is putting down upon the paper with such wonderful rapidity and apparent ease. Curiosity is satisfied. The agent of the X. Y. Z. R. R., at Big Bear station, has a more humble opinion of his own abilities as an operator than ever before, and returns to his little office to entrance a small circle, consisting of office boy, repairman, and student, with an account of the phenomenal expertness of that operator in the metropolis.

It must be confessed that Mr. F. is fond of admiration. A judicious application of "soft soap" (in other words, "flattery") will cause him to relax his sternness of demeanor, and make him speak fluently of himself and his experiences, which of course are rather interesting, especially if you hear them for the first time. Speak of telegraphy, and he is at home. He may even be posted on local politics, horse races, baseball, and can give you a "point" on stocks, but aside from those subjects he is not a brilliant conversationalist. The world of literature is to him an unexplored country. He lives in the present, and has no serious thoughts of a time to come; but he has a reputation and a good position, and is just as proud as if he was President. Some one once insinuated that he was not quite "as big a man as old Morse," but Fogarty triumphantly exclaimed, "Could Morse do that?" and pointed to his copper-plate copy!

PACIFICUS.

Female Telegraphists.

Describing a typical woman of his time, Pope said of her:

Offend her and she knows not to forgive,
Oblige her and she'll hate you while you live.

The Atossa of to-day is of a different character. She may not forgive an affront, but she certainly will not resent an obligation. She commands—we had almost said demands—a large share of man's philanthropy, and claims all the privileges of her sex into the bargain. If, however, one half the verse has lost its terrors, the other half has grown more alarming. No one can nowadays speak a word of wholesome, if it happen to be unwelcome, truth about woman and her rights, except at the risk of incurring not merely her personal disfavor, but the fervid denunciations of those well-meaning men who have lately espoused her cause. It is not without some fear and trembling, therefore, that on the question of employing females as telegraph operators, which has been under discussion in the daily newspapers, we venture now to express an opinion. To set ourselves right with our readers, male as well as female, we hasten to say that we have the highest possible opinion of woman, desiring above all things to see them—comfortably married. Further, we are prepared to recognize the hard facts of our social relations; and, although not feeling sure that the telegraph machine, any more than the sewing machine, tends to the fulfilment of woman's higher vocation, we approve of her employment, under favorable conditions, as a telegraphist.

Addressing ourselves, however, to the practical bearings of the question, we shall be compelled to point out when and why the conditions are not always favorable. The ladies themselves who have been laying their grievances before the public press have chosen to disregard any conditions whatsoever. The burden of their complaint is that the females employed in the Government telegraph service are being reduced in numbers, and that all vacancies are being filled up by males. Some eight hundred or more of their sex, they say, were employed as telegraphists, thereby befriending "that large and increasing class of women who must always be self-supporting;" the public have been "quite satisfied" with this arrangement; therefore, to the public they appeal as to whether "it is their wish" that the arrangement shall be upset. This, briefly, is the sum and substance of their contention. We may remark upon it, in passing, that it does not seem so certain that the public are "quite satisfied," one newspaper distinctly alleging that it is well known that numerous complaints have been made by the mercantile public against the employment of females at public telegraph offices. But what we are concerned with just now is their implied *right* to be employed, and their appeal to public sentiment as sole arbiter, regardless of those practical and humane considerations the potency of which has come out plainly in the course of the discussion, and must have been perfectly well known beforehand to the correspondents themselves.

The distinction between what we have referred to as "sentiment" and what as "humane" is illustrated in the answer given to a parliamentary champion of woman's rights, the other evening, who taxed the Government with cruelty in reducing the number of female telegraphists. "I am myself," replied the Postmaster General, "very favorable to female employment, and desire to see it extended." Standing by itself, this statement gives an unqualified approval of the current sentiment that the earning of wages is of itself a blessing to women, and that to render them self-dependent will, somehow or other, elevate them. He went on to say, however, that in the postal telegraph service it had been found that the more arduous duties, especially night duty, bore too heavily upon the males, whose numbers had consequently to be increased, and a proportionate reduction to take place in the number of females. This we regard as a humane consideration, and it is one which we should rejoice to see exercised a little oftener in the interests of women themselves, in callings which are their legitimate and undisputed property. But if it come to a question

whether a certain number of women shall be maintained in a particular calling, to the physical detriment of the men; and if it cannot be shown that there is no alternative between slow starvation on the one hand and slow killing on the other, clearly the plight of the men is entitled to some amelioration. Women cannot yet afford to see men worked off the face of the earth. It is certain that all men must work; but it is not necessary, nor desirable, that all women should; nor that men should do none but noxious work in order to let women do the rest.

Applying these reflections to the case of the telegraph operators at the Central London Office, we have some reliable evidence to go upon. Several descriptions of that gigantic establishment have appeared in print since 1870—notably one by Mr. Anthony Trollope two years ago, and another quite recently by Mr. J. Munro, C. E. Both gentlemen tell the same story as to the good treatment, general comfort, and well-being of the female employés. The evidence, moreover, satisfies us that the present complaints about overwork arise from the natural growth of business, and that the females are tacitly confessing themselves unable to cope with it. But, what is more to the point, we have very detailed information about their personality. They are, we are assured, most of them young—ranging from fifteen to twenty years of age—very respectable; many of them well-to-do, evidently working "for the sake of pocket-money," and "returning in the evening to quite elegant homes." Of course there must be many exceptions; but, taken as a body, it is plain that the females here finding occupation hardly answer to the description "women" at all, much less to "that increasing class of women who must be self-supporting." It must be obvious, indeed, that for this and every other public service, philanthropy has not and never can have much voice in the selection; and taking the facts as we find them, the fortunate ones are not precisely of that class whom at all cost it is the imperious duty of the State to befriending.

We come now more closely to the practical aspect of the question. Mr. Munro tells us that out of about one thousand operators there are still some seven hundred females, none of whom work later than 8 P. M. on week days, or at all on Sundays. "For ordinary lines, where the traffic is light, female clerks are," Mr. Munro considers, "even better than male clerks." This is no doubt true, just as it would be substantially true of most other employments. But when he goes on to tell us that all the night traffic, all the urgent and prolonged strain of the busy lines, as well as all the Sunday work, can only be dealt with by the men, his testimony in favor of the female operator, as such, loses much of its weight. At all events, we are not surprised that continued banishment from day duty, and unremitting labor at high pressure, have told their tale upon the men, and have at length necessitated what Mr. Munro calls "differentiating" the work—that is to say, giving the male clerks a reasonable turn at the lighter kind. This is being done, not by discharging anybody, but simply by taking on males as vacancies occur among the females. That the adjustment is being carried out very slowly is evident from the fact that Mr. Trollope spoke of it two years ago as a process which "he feared" would continue for some time to come. Perhaps his fears would have been less pathetic had he paid his visit in the night time. We commend this suggestion to wandering authors in search of copy. The outlay of a tithe of that gush which Mr. Trollope expended on the interesting persons whom he saw at midday, if bestowed on the picture presented at midnight, would have roused feelings of a somewhat sterner kind. At the age of eighteen, Mr. Munro tells us, the male clerk is liable to night duty—liable, that is, to have his days turned into nights; his natural hours of rest into hard and sweltering toil; to grow up dreading sunrise as the chilly signal for putting out all the gas, and hating the sunshine as the one hindrance to his makebelieve sleep by day. We can willingly credit the Government with rendering this part of the common experience of every male telegraphist as tolerable as may be, but at best it

must be bad; and the thing that strikes us with wonderment is that from his female fellow servants there comes not one word of sympathy, but only fretful protests at any attempt to make it less frequent and more endurable.

Some details of the relative wages, and the rates of sickness among the male and female clerks are furnished by Mr. Munro, but as their respective cheapness is not now in dispute, we need not examine these figures. Nor need we make any invidious comparisons between the fitness of women and men as operators. What the *Standard* said the other day, on this latter point, was sheer nonsense—said in reference to prevailing sentiment by some one who evidently knew better. The operations of telegraphy are *not* to be compared with the dexterities of lace-making; nailmaking would be a long way nearer the mark. The simple truth really amounts to this: The art of telegraphy can be learned by most young persons, whether boys or girls. Once mastered, however, there is, as regards dexterity, nothing to choose between them. As regards docility, steadiness, and good behavior, the women in this, as in all other employments, carry off the palm. But the dexterities and docilities are not everything. On the question of trained intelligence, special or technical—a quality much to be desired in the telegraph clerk—the writers we have quoted from are entirely silent. But they are precise as to the fact of hard work having to be done, growing harder year by year; as also to the inexpediency of imposing it, and it alone, upon the males.

This is the lesson which the Government has learned by experience; and it is one that was confirmed by the longer experience of telegraph companies while they had a separate existence. Their practice, it is true, was not uniform, one company employing females only at small offices; another at the larger offices, but not at all at public offices large or small. One company, after a long trial in their chief office, ended by displacing all the females, and employing a much smaller number of men; while another—dealing mainly with local town traffic—employed females exclusively. The companies, in short, exercised their discretion; and in a matter which, as we have shown, is mainly administrative, the Government authorities ought to be allowed to exercise theirs, whether the public on sentimental grounds "wish it" or not.—*The Electrician*.

Telegraphs and Telegraphers in the Oil Region.

Three years ago this small basin, known as the Tuna Valley, was perhaps as unknown and insignificant as any portion of our country could be and yet be put down as being inhabited and civilized. For years there had been a few farmers and lumbermen living here, and a twenty-mile rail track reached from the main line of the Erie, at Carrollton, to the bituminous coal beds at Buttsville, or Alton, and was known as the "Bradford Branch." Bradford, the only town in the region, consisted of a half dozen houses, a hotel, two groceries, and a blacksmith shop; and, though small, it was the grand social and commercial center to which on Saturdays of each week the surrounding farmers and lumbermen came to purchase the necessary supply of tea and "tobacker." Life was a rough, earnest struggle for existence, a sober reality of early rising in the morning, plain, homely diet, long days of hard, laborious toil in stumpy fields, sweet, refreshing sleep to weary limbs and ambitionless minds. But this retired and bucolic quietude came to a hasty end. The gradual falling off of the production of petroleum in the old or lower oil region in Clarion, Butler, and Venango counties caused the professional oil producer to seek new fields to bore in. Now it is no longer a theory, but an established fact, that what is known as the "Oil Belt" takes a direction about from the northeast to the southwest, or, to be more particular, the "forty-second degree line." Following this line brought the petroleum seeker (or the "Wildcater," as he is called here) into the Tuna Valley, within McKean County, in Pennsylvania, and the adjacent county in New York, namely, Cattaraugus. With the dis-

covery of oil here there at once came into existence an entirely new center of commercial life, brisk, pushing, and vigorous. But space forbids us to go further in this direction, as it is to the telegraphic interests that I wish to confine the little that I may say.

No portion of the manufacturing or commercial world, taken as a community, adopt as quickly, and make use of all the modern arrangements for time and labor-saving, as do the oil region residents. The unlimited amount of capital, the great risk and enormous profits, make those interested use their best endeavors to be always informed as to what is transpiring at the border as well as at the center of the great objects in which they are concerned; and to be ever thus watchful none of the media of reliable information are made use of any more than the telegraph. We think that the telegraphic business transacted in and for the oil regions fully equal to that done in any of our large cities—press business, of course, excepted. Scattered up and down the whole oil territory are numberless small towns or "cities," as they are pompously called, and at each of them there is at least one, and often two or three, telegraph offices or stations. At present there are not less than half a dozen lines doing business here, to say nothing of the various private or unchartered lines. A new line, rather local thus far, presents itself to the public this month, namely, the "Empire Telegraph Line." It will extend from Pittsburgh to Buffalo, via Olean, N. Y. Mr. A. J. Baldwin, formerly of the U. S. Line, is the general superintendent. They propose to have special low rates between principal points in this part of the country, a special brokers' line between here and Oil City, etc., in all of which the Western Union will keep even pace with them. The United Pipe Line and the Tidewater Pipe Line telegraph lines are two prominent ones, conducted in the interests of the oil transportation companies whose names they bear. Most prominent, of course, is the Western Union, which, with its usual enterprise, has its wire running into every "city." It is with this line that I have the honor to be connected, and in management of the Custer City office. The division to which I belong is the 9th, and is under the superintendency of Mr. W. J. Holmes, who is too well and favorably known for me to attempt anything eulogistic in his behalf. As division operator we have Mr. T. C. Thompson, at Dunkirk, a gentlemanly and accommodating superior. Here, within a radius of six miles, there are more than two hundred telegraph operators in regular employment—certainly a good exhibition for a three years' growth. The Bradford W. U. office is the largest, and is under the management of Mr. O. C. Camp. John C. Roe is night press reporter, and Messrs. Blakney, Chas. Kishbaum, and James Barrett are day operators. They are an industrious crowd to get among, day or night. The office is in the new Oil Exchange. The Erie office is graced by Messrs. Jack Swain in the freight depot and Ed. Robinson and Billy Wells in the passenger department. One mile "down the crick," at the immense city of Tarport, we have Mr. Patsey Crowley, a driving boy, and the youngest on the line, in the Erie office; while up in the city of mud Mr. J. B. Wooster minds the clicks and calls at Kendall W. U. Gilmore City, three miles further on, boasts of a "plug factory," the only one in the region, and which is "minded" by Mr. Campbell. At Limestone, on the Erie, Alvah Herrick (no relation to the pill and plaster man) presides, while further down, at Carrollton Junction, Messrs. Ed. Thompson and Jim Frank, two large-hearted boys, receive and send for dear life. Going the other way, we find at Custer City Jud. Walker and John Welsh, two who live for the good of the things they find in the oil regions, faithfully checking off the missives of life where they will do the most good; while up the grade, at the little end of the Tuna, M. H. Birmingham is happy in solitude; and lastly, but not the least, we would mention Dan Murray—cosmopolitan Dan—in his mountain retreat, to the westward, far up on the summit of the green-clad Alleghenies, at Kimzua. Dan is a rare genius, a character, in fact; he figures in all his originality as one

in a work of considerable merit, called "Oakum Pickings." Few of these United States are there that have not been honored by having had Dan as a resident; but he is at the Kinzua mountain top now, listening to the mad surgings of the world's far-off battles, surrounded by animated nature in all the grand eloquent glory of perfumed flowers, green leaves, green worms, and mosquitoes.

"G. N."

CUSTER CITY, PA.

A Good Work Well Done.

No better work has been done by any department of the Government in the last year than by that of the Signal Service. It has stretched its lines from Fort Davis to El Paso in Texas, and on the northwest from Bismarck to Fort Ellis, about 1,100 miles. In every direction of our frontier territory these spider-like threads are extending over canons and through the dry alkaline deserts, sure precursors of civilization.

A new instrument has been issued by the signal officer especially for the use of farmers, by means of which an intelligent person can foretell with a large degree of accuracy the approach of rain within twenty-four hours. The number of display stations also has been greatly increased during the last year. All of our readers can appreciate the value of these stations to our sea and lake shipping ports. It is impossible to estimate the amount of property and human life saved annually by their warning signals. Everybody, too, from the merchant whose ships wait ready to sail, to the housewife hanging out the family washing, has tested the value of the daily predictions of "Old Probabilities." What the *Tribune* does for New York, the Government does for the whole country; and next to the Postal Service, there is probably no department at Washington whose work conduces more to the comfort and safety of the individual citizen than does that of the Signal Service Bureau.

Few of our readers are aware of the enormous daily and hourly labors and the accurate observations extending almost to every quarter of the globe, represented in the daily International Bulletins and the charts sent out with them. This is the first chart of the kind issued in the world, and has been sent out for a year without the break of a day. The United States, from the time she began, about nine years ago, to take a share in meteorological work, has held a first place among the nations for the accuracy and ingenuity of her system. In 1876, the International Congress of Geographical Science, meeting at Paris, sent a letter of distinction to General Albert J. Myer, and to the Signal Service Corps under him, for the advance which science had made through their efforts; and at the Meteorological Congress in Rome last April the United States system of observation and report was adopted, as far as practicable, by the European meteorologists. Let us not be the last to give credit to the work done by this most efficient department of our Government.—*N. Y. Tribune*.

A Wonderful Feat in Telegraphing.

One night about three years ago, says a letter to the St. Louis *Globe-Democrat*, while some experiments were trying in New York with the automatic sender, some of the boys, probably prompted by jealousy of the ability of Mr. George Eitemiller, of Pittsburgh, who has the reputation of being one of the best operators in the country, were struck with the idea of "rushing" that expert individual. It was the work of a moment to switch the automatic on Pittsburgh, and call them up. As luck would have it, Eitemiller answered, and was told to get ready for a five-thousand-word special. The preliminaries having been arranged, he unsuspectingly told them to go ahead.

Well, they started off at a very moderate gait for a few minutes, then they increased it to the average press rate, and then began climbing up on him gradually, until forty, and then forty-five words a minute were reached; still not a break. Forty-six, forty-seven, and then fifty came tearing along, making the Morse sounder buzz and whirl like a circular saw in full motion. By this time several of the boys in Pittsburgh were attracted by the unusual excitement Eitemiller seemed to be laboring under, and went over to his table to see what was going on. Not daring to say a word for fear of interrupting him, they could but

gaze in astonishment at the marvellous work of both sender and receiver. Fifty-five words a minute! Like lightning his hand seemed to fly over the paper, and a dozen pencil points had he worn down, only to snatch another that had been sharpened by one of his admiring colleagues, and kept on, filled with the determination not to allow that man in New York to rush him, if he never took another word. But the climax was reached when they turned the automatic up to sixty words a minute, averaging five letters to the word. Poor George dropped back, his pencil fell from his hand, his eyes closed as he faintly murmured, "Hank Cowen, Patsy Ayers, or the devil."

Cable Dividends.

The fourth ordinary general meeting of the Direct United States Cable Company was held in London, August 1st. From the report it appears that for the half-year the revenue, after deducting out payments, amounted to £87,706 3s. 2d.; for the corresponding period of 1878 the amount of revenue, after similar deductions, was £79,852 11s. 5d. The working and other expenses (exclusive of cost of repairs), interest on loan, and income tax, etc., amounted for the half-year to £20,525 5s. 10d., leaving a balance of £67,182 17s. 4d. as the net profit for the half-year. In the corresponding half-year of 1878 the expenses and payments above mentioned (also exclusive of cost of repairs) amounted to £20,065 17s. 9d. The cost of repairs for the half-year amounted to £8,965 9s. 11d.

Three quarterly interim dividends of 1½ per cent. each, amounting to £45,532 10s. 0d., have been declared and paid at the usual times during the financial year, and a final dividend of 5s. per share was declared at the meeting, making, with the three interim dividends, 5 per cent. for the year, being a total distribution of £60,710. £34,756 4s. 3d. was added to the reserve fund, thereby increasing it to £100,000. £2,345 1s. 5d. was also carried forward to next account.

At a meeting of the board of directors of the Anglo-American Telegraph Company, held in this city July 11th, it was resolved (after reserving £37,500 for the renewal fund) to declare an interim dividend, for the quarter ending June 30th, of 1½ per cent. on the consolidated stock, and 2½ per cent. on the preferred stock, both free of income tax. This leaves an estimated balance of £10,000 to be carried forward to next quarter's account.

The agreement with the Dominion Telegraph Company of Canada, referred to in the last report, has been completed, and came into operation as from the 1st January, 1879.

The particulars of the Award in the Arbitration between the Liquidators of the Old Company and Mr. Leoffler, were fully stated at the ordinary general meeting on the 21st March last.

The break in the Company's main cable which occurred on the 4th January last, was repaired on the 20th March, and the interruption on the 12th February last of the short section was repaired on the 22d April. Both sections of the cable are in good working order.

Telegraphers Eating Clams.

There was a notable gathering of Associated Press and telegraph men at the snug quarters of the "bondholders" near Pawtuxet, yesterday. The guests met in Providence almost by accident, and were entertained by Mr. Eugene F. Phillips, and Messrs. Suesman and Bogle of the Western Union Office in this city. Among the telegraphic celebrities were Mr. H. C. Bradford of Providence, John W. Duxbury of Boston, Stephen D. Field, the electrician of San Francisco, and his confrere John I. Sabin, Henry W. Pope, Superintendent of the American District Telegraph Company, New York city, and William Mackintosh, Superintendent of Construction, Western Union Telegraph Co., N. Y. city. The Associated Press people were headed by Walter P. Phillips, Resident Manager at Washington, D. C., P. V. DeGraw, of Mr. Phillips' staff, Harry A. Wells, of the Philadelphia office, and Edwin C. Boileau of the New York office. There were also present as guests of Messrs. Suesman and Bogle, William A. Harris, manager of the Western Union at Bridgeport, Conn., and Mr. Andrew S. Phillips of the Point Street bridge. An elegant dinner was served at five o'clock, which was graced and considerably enlivened by the presence of many of the "bondholders," including ex-Gov. Lippitt, Mr. Alfred Anthony, Postmaster Brayton, Col. Joseph P. Manton, and John W. Butts, Jr.—*Providence Press*.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY.

W. J. JOHNSTON, - - - Publisher.

August 15th, 1879.

THERE are 136 miles of land telegraph lines in Cyprus.

THE French and Belgian governments are about to test the Edison quadruplex on the line from Paris to Brussels.

"THE Edison Telephone Company, limited," has been incorporated in London, with a capital of \$100,000, in one thousand \$100 shares.

MR. E. W. FARNHAM, who advertises the remedy for writers' cramp, is connected with the American, and not Adams, Express Company, at Chicago.

WESTERN UNION stock was quoted at 93 during the week, an effort having been made to "bull" the market, but it has dropped again, and is now quoted at 91.

A CABLE is being laid for the Russian government between Baku and Krasnovodsk, in the Caspian sea. The length is 147 nautical miles, and the cost about \$300,000.

THE salaries of the Ogden, Utah, men were reduced from \$90 to \$75—not \$80, as stated by mistake last issue. They were afterward offered \$80 to remain, but declined. Their names are Dave Newton, George Gardinier, H. W. Bennett, and Frank Brown.

SEVERAL new telephone stations have recently been opened in Germany. The telephone is also being rapidly introduced in Brazil. The instrument is not patented in either of these countries. A Spanish inventor has devised a new telephone which requires no call but the voice.

BRIGADIER GENERAL EDWARD L. MOLINEAUX, of the Eleventh Brigade, Brooklyn National Guards, has been authorized to introduce the United States Army system of flag signaling in his brigade, for the purpose of demonstrating its utility for adoption and use in the National Guard.

THE Exchange Bank of Montreal failed last week. It was heavily loaded with Montreal Telegraph shares. The bank held shares to the value of \$150,560. It is believed the bank advanced on them at about 140, equal to \$210,784. The market value of the stock soon fell to 90 per cent., showing a loss to the bank of \$75,880.

AN unsuccessful effort has been made in England to obtain a reduction of telegraphic rates on the messages of exhibitors at the Australian exhibition. Lord John Manners, Postmaster-General, says that "because of the pecuniary advantages exhibitors are expecting to derive, he can see no reason why the Post-office department should forego its revenue for their benefit."

Progress of the American Union.

Work on the lines of the American Union Telegraph Company progresses with vigor. The company has now several offices ready for business, but will not open them to the public until more of its lines are complete. The poles are all up between this city and Philadelphia, and the wire is now being strung; and all over the country the lines, in ten-mile sections, are being rapidly completed, so that no doubt is entertained that the company will be in a position to commence business about the 1st of October, with offices in all the principal eastern and many of the western cities.

The company pays promptly for everything it orders, and will commence business not only clear of debt, but with enough capital in its treasury to insure that the Western Union will not be able to either buy it up, or freeze it out by cutting rates. The latter company, as usual, is placing every obstacle it can in the path of its new competitor. Justice Harlan, of the United States Supreme Court, has extended the order restraining the American Union Company from constructing a line along the route of the Wabash Railroad until the motion to make the injunction perpetual, made in the suit against the company on the part of the Western Union Telegraph Company, shall be decided, which will probably be in October.

This will delay the American Union along that particular road, but it will doubtless find some other route for its wires. This is the only point at which difficulty has been experienced, except that in New Jersey, referred to last issue. The latter has been overcome, however, and those who before were loudest in opposition to the new company are now doing all they can to further it.

For the benefit of many who write us for information as to the proper person to apply to for a position with the American Union Company, we would say that the energies of the company have so far been bent wholly toward getting the lines built. Comparatively little has yet been done in regard to offices and operators, except the securing of a number of managers at important points. Only one district superintendent has yet been appointed; but these matters will receive due attention at the proper time. In the meantime many applications are received by both Mr. D. Doren and Mr. C. S. Shriver, and placed on file. When district superintendents are appointed applications from their district will be referred to them; but it would be well for the writers to renew the application when the lines are built and ready for business in their section.

Gutta-Percha Covered Wires and Cables.

It will be remembered that about a year ago, one Mr. Clinton G. Colgate, a lawyer of this city, obtained an injunction against the Western Union, restraining the company from the further use of gutta-percha covered wires and cables. The same gentleman has recently secured a similar order with regard to the Gold and Stock. The question of how much the Western Union and the Gold and Stock shall pay as royalty on account of the gutta-percha covered wires and cables at present in use has not been decided, Master-in-Chancery Gutman not having yet made his report. Mr. Colgate claims what the Western Union believes to be so exorbitant a sum that efforts looking to a compromise of the matter have thus far been

unsuccessful. The Bishop Gutta-Percha Works experienced much inconvenience, some time ago, by reason of the decision in Colgate's favor, but arrangements have been entered into by which the Bishop Gutta-Percha Works continue the manufacture of gutta-percha covered wires and cables, paying Mr. Colgate a royalty. They are not, however, permitted to manufacture for the Western Union or Gold and Stock until the questions in litigation have been settled. It will interest purchasers of cables and covered wires to know that no advance of any description has been made by the Bishop Gutta-Percha Works in the price of these goods on account of the royalty to Mr. Colgate. The old prices, and in some cases even lower ones, have been maintained. The Bishop Gutta-Percha Works are getting out a new catalogue, which will be mailed free on application.

An Improvement on the Electric Pen.

An English inventor, Wentworth L. Scott, has improved on Mr. Edison's electric pen. Mr. Scott's pen consists of an open glass tube drawn out to a point at one end, where there is a minute orifice. Within the tube is a copper wire, to which a fine platinum point is soldered toward the lower end of the pen. This copper wire is held in the middle of the tube by means of a cork stopper at the larger end (the upper end of the pen). The point of platinum should just reach the tip of the pen. To work the instrument the copper wire is connected with one of the poles of a Ruhmkorff coil. The other pole is connected with a zinc plate, on which the paper is to be laid. The circuit is now closed, and so soon as the current flows it causes the interrupter of the Ruhmkorff coil to vibrate. The pen is then made to move over the paper, as in writing, care being taken to touch only the glass tube, for fear of electric shocks, and electric sparks are seen to pass with great rapidity between the point of the pen and the paper. On holding up the paper between the eye and the light, the track of the pen is seen to consist of minute perforations, like those produced by Edison's electric pen. The instrument is as light as a common pen. The cost of the whole apparatus is trifling, about three dollars and a half.

THE prospects of telegraphers are looking up. A correspondent in a neighboring city writes us: "Times are getting better. Good, first-class men are not to be found, nor haven't been for months, and are getting scarcer every day. Downer (New York) wants some, Maynard (Washington) wants some, Johnson (Cincinnati) wants some, and some are wanted in this office. Our manager yesterday offered an operator \$60 a month, but was laughed at." Thus we see the effects of a little healthy opposition.

THE letter of "Watch Tower," in the issue of July 15, will be remembered. We are glad to notice from his letter in to-day's issue that the salaries of four men in the Buffalo office have since been increased from \$50 a month to \$60, the Executive Committee promptly confirming the manager's recommendation of an increase. There are thousands of other operators throughout the country who are probably equally deserving of an increase, and the present would seem to be a good time to apply for it. Notwithstanding all its fair promises, the Western

Union has never showed a particle of disposition to treat its employes fairly so long as it maintained the monopoly. Perhaps now that it sees its best talent going over to the opposition, through its own penny-wise-pound-foolish policy of grades and sliding-scales, it may suddenly discover that a little liberality toward its employes may be to its interest.

Many readers of THE OPERATOR have doubtless been puzzled over the anecdote of Mr. Edison's operating days, in which it is related of him that, being unable to take the press as rapidly as it was sent him, he invented a contrivance by which the signals could be reduced to a slow rate, by attaching a second sounder to the line in his office, thereby getting the press report at his ease. The following explanation is given by Professor Edison himself: The apparatus for accomplishing this object consists of two Morse registers and a sounder. The first Morse register indented the characters in the paper. This paper passed through the second register, the lever of which was arranged with a platinum point to open and close the circuit of a sounder, and this lever was so adjusted that the thickness of the paper intervening between the stylus and roller prevented the lever from closing the sounder circuit; but when an indented character passed the thickness of paper ceased to intervene and the sounder closed. Thus everything recorded on the first register by the press operator at any speed was repeated on the sounder a few minutes after at a higher or lesser speed.

It seems that the Executive Committee is not really to blame for all the grinding reductions that have been effected in its name. Many superintendents and managers, desirous of winning a smile of approbation from headquarters, have reduced salaries considerably below the limit fixed by the Executive Committee, and then claimed that they were powerless to pay more. These unwarrantable reductions have done much to bring about the present dissatisfaction among operators, and we question whether the Executive Committee will thank these officious gentlemen for their interference.

An ingenious compass alarm has lately been invented by which the moment the compass needle passes the limit of variation prescribed, an alarm bell will ring in the captain's office, and continue ringing until the ship's proper course is restored. In this way any departure from the ship's course, as ordered by the officer in command, whether due to the steersman's inattention to duty, or to a misunderstanding of the orders given, will be instantly made known.

YELLOW fever has been declared epidemic at Memphis, but does not appear to spread to any extent among other Southern cities. Mr. Brooks Wilson, train dispatcher of the Mississippi Railroad at Memphis, reported very ill in our last issue, has since died, and Paul Ross, a check-boy in the employ of the Western Union, in same city, was taken down with the fever August 11th.

If a few of the contemptible acts committed by some prominent individuals upon those who are powerless to retaliate, should be published, what a howl there would be; and yet this holding them up to the scorn and ridicule they so justly merit, is the only sure preventive of a repetition of their despicable treatment of the helpless.

Echoes from 197 and City Items.

The total number of messages handled in the W. U. main office last month exclusive of press report, was 1,019,000.

Henry Doherty has been appointed Manager of Stock Exchange, A. D. T. Office, vice C. F. Mills-paugh resigned.

Miss Lizzie H. Snow has been appointed manager of the A. & P. office, Hartford, Conn., vice Dick Lounsbury gone over to the American Union.

Mr. Gilbert D. Merrill has resigned. "Gib" is a first-class telegrapher, with all that the term implies, and his departure from 197 is universally regretted.

James H. Largay is subbing on the day force with a fair prospect of becoming a permanent fixture. "Jim" is as good an operator as ever manipulated a key.

It is not true that the talented young vice-president resigned his position in the A. & P. Company on account of too much pressure on the brain. It was done from philanthropic motives.

Among our distinguished visitors last week were Mr. Jones of Chicago, Mr. Eddy, manager of Whitehall, Mr. L. W. Myers, one of Pittsburgh's solid men, and ex-Chief Patrick Henry Shaughnessy.

By a recent order of Gen. Supt. Pope, vacations have been granted all American District adult employes, with pay, as follows: inspectors, 7 days; managers, 4 days; assistant managers, 3 days; patrolmen, 3 days.

Miss Annie L. Nichols of Washington market wire, 197 Broadway office, sailed on the "Gallia," August 6th, for a vacation trip to Europe. Hosts of friends, both W. U. and A. & P. wished her *bon voyage*, and hope for her safe return in October, with stories of Britain and France.

The business of the American District never was more prosperous than at present. Its messenger earnings at this, the dulltest season of the year, averaging over \$600 per day. The business of the circular department, under the supervision of W. W. Rider, has increased 900 per cent. over same months of last year.

In consequence of the departure of Inspector Lockwood of the A. D. T. Co. for another sphere of action, several changes have been made in the personnel of that Co. F. G. Lyon, of the Gold & Stock Telegraph Co., succeeds Mr. Lockwood as Inspector at Large, and takes charge of the electrical work. Mr. W. E. Huntington, the veteran Inspector of the company, takes the First Division, which includes from Grand Street south, while Mr. Skillman assumes the Second Division.

The Ticket Agents' and Telegraphers' Association N. Y. Elevated R. R., of this city, will give a moonlight excursion to Nyack, on the Hudson, on Tuesday evening, August 26th, the anniversary of the opening of the Third Avenue "L" Railroad. A steamer and barge will leave Harlem, 125th street, E. R. at 7:30 P. M.; 23d street, E. R. at 8 P. M.; and 25th street, N. R. at 8:40 P. M. Returning will reach the city about 8:30 A. M. Tickets admitting lady and gentleman, fifty cents.

A move in the right direction is now being made in regard to the D. H. business. In the future the stamp system is to be abolished, and all Senators, Congressmen, Members of the Legislatures, men of influence, lawyers, railroad men, even the Executive Committee, and the numerous offshoots of the reigning family, will pay for their messages. Under these circumstances, an operator with the spirit of a mouse, won't think of sending a message free, unless his wife's mother's second cousin should die, or some other event of an urgent social character should happen, which would justify him in so doing.

In former days the trains on Long Island used to make pretty good time, when the tracks happened to be free from cattle, and then the operators knew they could not fight for the circuit a minute over two hours, or the train would surely be upon them. The warriors of other days have departed, but their places have been filled by new comers who religiously observe the traditions of the past. Every man constitutes himself a superintendent for the time being, and uses his ground wire with a refreshing regularity and frequency. It doesn't seem to strike any of them that every minute wasted in the struggle is not only lost to all of them, but there is no corresponding gain to counterbalance it. In the meantime the disinterested artists look on and smile—when they haven't got any business to get off. When they have, they grit their teeth and mutter a prayer.

Themes for the Thoughtful.

The wild oats of youth change into the briars of manhood.

Choose those companions who administer to your improvement.

Kindness is the golden chain by which society is bound together.

Ambition thinks no face so beautiful as that which looks from under a crown.

A man's own safety is a god that sometimes makes very grim commands.

You cannot dream yourself into a character—you must hammer and forge yourself one.

Better a wrong will than a wavering; better a steadfast enemy than an uncertain friend; better a false belief than no belief at all.

Hard speech between those who have loved is hideous in the memory, like the sight of greatness and beauty sunk into vice and rags.

He alone is wise who can accommodate himself to all the contingencies of life; but the fool contends, and is struggling like a swimmer against the stream.

If a man does not make new acquaintance as he advances through life he will soon find himself alone. A man should keep his friendship in constant repair.

Cunning leads to knavery; it is but a step from one to the other, and that very slippery. Lying only makes the difference; add that to cunning, and it is knavery.

Men spend their lives in heaping up colossal piles of treasure, which stand at the end like the pyramids in the desert sands, holding only the dust of kings.

• If you would relish food, labor for it before you take it; if enjoy clothing, pay for it before you wear it; if you would sleep soundly, take a clear conscience to bed with you.

A person that feels that he has no character to lose, is very free with his tongue. A wise man thinks before he speaks, for well he knows his words have weight.

As the storm goes and the stars come so will trouble go and joy come, if we but live for the within, but not in selfishness. Days will look all the brighter for the clouds across the sunshine.

Let right doing, for the sake of right, be your daily work. Scatter your kindnesses like seeds in the furrows of the earth to fructify and to blossom, to exhale their sweet perfume for all.

The best recipe for going through life in an exquisite way, with beautiful manners, is to feel that everybody, no matter how rich or how poor, needs all the kindness they can get from others in this world.

Never witness a tear with apathy or indifference. Words, looks, actions, may be artificial; but a tear is unequivocal; it comes direct from the heart, and speaks at once the language of truth, nature, and sincerity.

Some lives, like flowers, are fair, but not fragrant. We love to look at them, but do not care to hold them. Others, then, are sweet, gladdening, but with less of outward perfection, yet we would have them near us always.

The truly beautiful and good are those who pursue the paths of virtue and justice for the mere love of these attributes, and not because of the merit that attaches to such a life, or expecting to reap favors and rewards therefrom.

Remember this: if you cast any reflection upon the character of another person by act or word, you receive an injury in the minds of those that are cognizant of it, if you do not convince them that in making it you were just.

Many a timid child postpones his first attempt at walking simply because he lacks the courage to exercise an ability which he fully possesses; and many a man lets a noble scheme and grand enterprise fall to the ground from the same cause.

Some men fill the air with their strength and sweetness, as the orchards in October fill the air with the ripe fruit. Some women cling to their own houses like the honeysuckle over the door, yet, like it, fill all the region with the subtle fragrance of their goodness.

Buffalo Items.

There is a time-worn tale of a certain honest Granger who, visiting his favorite apple-tree one afternoon, discovered among its branches a thievish boy picking the fruit. The good Granger remonstrated with the lad, setting forth the iniquity of his proceedings, and earnestly requested him to "come down." The young vagabond insolently refused, and proceeded to fill his basket. The Granger then gathering some tufts of grass and small sticks cast them up toward the young thief, and commanded him to desist. The thief, feeling secure in his position up a tree, replied with jeers and taunts, asking of the Granger, "What he was going to do about it?" At this the owner of the tree became incensed, and replied: "I have tried both soft words and mild measures, and now," removing his coat, "I will see what virtue there be in stones." It is many years since I read the tale and the result, though evident, I do not remember. Sitting by my chamber window this evening, just off duty, "among the wee, sma' hours" and the memory of the nightly repeated "roast" vividly before me, this tale recurred to me, and with it arose the thought: Is it not applicable to the present situation, telegraphically? "If this be treason, make the most of it!" Since my article of July 4 was published, I have been criticized for confining myself solely to mention of the affairs of Buffalo office. I speak only that I know. Let others who feel the chafing of the heavy yoke our taskmasters place upon us lift up their voices with me, and I have faith to believe that the good time coming will not be far distant. The mandates of the Board of Directors of the Western Union Telegraph Company are hard to bear, and in many cases grievously wrong and unjust. But it is my firm belief that most of the suffering caused the craft arises from the actions of under-heads of departments, who, in their endeavors to win for themselves a reputation for economy, and thus make themselves solid with those higher in authority, care not what sacrifices they make of the interests or comforts of those who are unfortunate enough to be placed under their control for a time. Oh! Executive Committee, what sins are committed in thy name! What a convenient shield thou art, to cover and authorize all unjust rules and refusals emanating from managers! But deception deceives only for a season, and we in Buffalo can even now smile with a bold front when that bugbear of the past is paraded before us. How many times have we been told: "The Executive Committee's orders are, that, under no circumstances, shall any salary be raised more than \$5 at a time, and only then to fill a vacancy." And yet when, during the past month, our manager (?), under considerable pressure, made application for the salaries of four fifty-dollar men to be raised to \$60, in less than ten days, we have been told, the application was approved. This action has had a slight tendency to arrest the dissatisfaction in Buffalo office, that was fast growing into demoralization; and yet only slight. There are too many acts of injustice daily in remembrance before us all, that, like Banquo's ghost, "will not down." This dissatisfaction is openly expressed, and it is loudly rumored that more than one of our best men are quietly making arrangements to move. Quietly it must be, as the threats of our manager to prevent any employé of this office leaving to accept a position elsewhere in the company's employ, at an advance of the salary received by him here, are open, and in one instance an intimation of the once dreaded "black list" was made. We are disposed to give all credit for good actions and honest endeavors, but, in the application referred to as being successful, why were the names of at least two good operators, old employes and, working regular hours, omitted, and that of one of less ability who makes his appearance anywhere from nine to half past in the morning, is allowed an hour or an hour and a half for dinner, and is altogether released from night duty, inserted. "A fair field and no favor," either for friend or relationship sake, is all the majority of us ask. Mismanagement leads to dissatisfaction, dissatisfaction to demoralization and open revolt. That either should be the result in one of the most important offices on this company's lines we will not believe. We have before chided in kindness. We do not even now bear malice. To "see what virtue there be in stones" will be a last resort.

The changes since my last have been few. Jack Whalen remained with us but three weeks, when he resigned, to accept of a more lucrative position in Bradford, where he turns out his copperplate and excellent Morse at this time. Isaac Morris, recently employed on the police telegraph lines in

this city, is his successor, at the usual salary of \$50. Charlie Hughes, a \$50-salaried man, resigned on the 15th, to accept a better position in Chicago, and we understand the management are having some difficulty in finding a \$50 first-class man to fill the vacancy. The woods are not full of them. E. C. Keeler and R. A. Empey, of New York, passed through here a few days since on their way to Ogden and fortune. We only had time to give them a handshake and God-speed, as they could not stop over.

WATCH TOWER.

The Effects of the Western Union Monopoly.

On the day that Congress passed the amendment to the Army bill authorizing railroad companies to transact a general telegraph business over their wires, (February 24th last) a Washington operator wrote a letter to the New York Tribune in which, after speaking of the so-called "gradation" of salaries, "accomplished, not by raising the salaries of those whose talents entitled them to better pay, but in nearly every case by cutting down the pay of those whose ability was supposed to be less than the first-class grade of operatives," adds: "With a monopoly no redress has been possible. The action of Congress to-day makes an opposition telegraph line possible, and gives a prospect for a more active market for the services of good operators."

In the same letter the writer says that the vote by which the telegraph feature of the bill was carried through the Senate was the result of an honest conviction, deliberately arrived at, that the monopoly which has been maintained for so many years by the Western Union Telegraph Company is a sore oppression to the public. The lobby for the new departure was insignificant, both in money and numbers, while the whole power of the Western Union had been directed for the previous ten days upon the Senate in an effort to defeat the measure.

It would be idle to deny, continues the letter, that the Western Union Company has for the last four or five years been rendering a magnificent service to the public—a service probably unequalled by any telegraph system in the world, and at rates which cannot be considered as unreasonable. Yet, little credit is due to this corporation for the perfection to which its system has been brought, for nearly all its improvements upon the chaotic state in which the union of a hundred little lines left it have been reluctantly extorted from it by its enemies. The great impetus furnished by the necessities of the Government and the business public during the war first made this union of small interests possible. When the war closed, the telegraph system of the country was practically united under two heads, each controlling its own system of lines over territory exclusively its own. Shortly after the war these two interests became one, but the system upon which the practical affairs—that is, the transmission of dispatches—depended continued upon nearly the same basis which had existed when the lines had been in the hands of a great number of small companies. Then the United States Telegraph Company sprang into existence, and with the enterprise of the times its lines were rapidly extended, until they reached nearly every important centre in the country. All the advantages of capital and position were in the hands of the old company, and it adopted from that time the policy of inertia, leaving it to the new enterprise to devise an improved system which, by its more efficient service, should draw to its coffers a portion of the revenues accruing from the transmission of telegrams. Repeaters were already invented, but were held to be of comparatively little use. Messages taken in at New York for Chicago were relayed at Buffalo and again at Detroit, and those from New York to St. Louis were relayed at Pittsburg, Cincinnati and Indianapolis. At each relaying point great piles of telegrams accumulated during the busy hours of the day, while each operation increased the chances of blunders which would make the dispatch unintelligible when it should finally get through. In those days it was rather the exception than the rule for a patron of the telegraph in New York to get a reply from Chicago or St. Louis to a dispatch sent the same day, while it was a thing to be remarked upon to have a telegram from a long distance come through without being mutilated in some manner in transmission.

The sharp-witted electrician of the United States Company saw his opportunity and laid his plans to improve it. One morning he announced to the grain dealers in New York that his company was prepared to send telegrams "direct," or without relaying, from New York to Chicago. The old company laughed at him and pronounced the scheme impracticable and visionary, but before that night the new system had become a necessity for all time, and

the other company was compelled to follow suit. A few days later a "direct circuit" was made up over the United States wires, through "repeaters" at Pittsburg, from New York to Cincinnati, and again the Western Union was forced to adopt the long circuit, much against its will. This was an entirely new departure, and one of the longest steps in advance which the telegraph system has ever experienced. About ten years ago, when the little Franklin Company, with three or four wires running between New York and Boston, was engaged in an unequal struggle for existence with the Western Union, the quick wits of its Superintendent, Mr. J. G. Smith, led him into a series of experiments which resulted in the duplex system, now in almost universal use by the Western Union. This, too, was laughed at, and the Western Union officials refused to believe in it.

The Western Union's Taxes.

ALTHOUGH William H. Vanderbilt's income is stated to be \$18,000,000 a year, he evades paying taxes by swearing that if all his just debts were paid he would not be worth a dollar! Cyrus W. Field also takes advantage of the same legal loophole, notwithstanding that he is said to have made \$4,000,000 out of the elevated railroads of this city alone. These men have millions of dollars invested in railroad and telegraph stock, on which they pay no taxes. "The moneys invested in these shares are not taxable," they say. "The companies pay taxes on their capitals, and that payment exempts our shares from taxation." These corporations, however, pay taxes on an extremely small capital. The Western Union, for instance, with a capital of nearly \$50,000,000, paid taxes last year in New York, on a capital of only \$446,633! The Review of this city, in an article on "Vanderbilt's wrongs against the people," says: Von Laue, in his "French Revolutionary Epoch," refers to the tricks, shifts and evasions by which the nobility of France managed to evade taxation, and alludes to the fact of the tax-gatherer passing their doors, marked by a token like those of the Hebrews in Egypt, showing them to be a chosen people. He then proceeds to say: "Consequently no pretext is considered too mean to avoid that which in being enforced would place them in some measure on a level with the common herd. Still, sometimes they have to pay; but care is taken that it shall be as little as possible, all their influence being brought to bear against an assessment, which implies a certain equality with the lower classes, and is absolutely repudiated, especially by the noble."

It was this condition of affairs that caused the head of Louis the XVI to fall beneath the axe of the executioner; that caused wholesale confiscation and wholesale slaughter. Had our noble Lord Vanderbilt lived in those days, he would have been one of the first victims of the revolution. He would have been torn to pieces, as was the unfortunate Foulon, who in answer to the piteous appeal of the starving people of Paris for food, arrogantly cried out, "If the rabble can't get bread, let them eat hay." Our suffering taxpayers are commencing to learn the ways and the means by which the fortune of Vanderbilt has grown in the course of a very few years, from five millions of dollars to over one hundred millions of dollars. The eyes of all thinking men are upon thee, O Vanderbilt, and the day of thy accounting to the people is near at hand.

The Review then proceeds to put Mr. Vanderbilt on the witness stand and cross-examine him in reference to the several railroads with which he is connected. Referring to the Western Union, the Review asks:

Q. What do you think about Western Union?

A. I think it is a good purchase. It can be made to earn eight per cent. on 50,000,000.

Q. Has it ever paid taxes on a capital exceeding \$500,000?

A. No, sir.

Q. Does it not appear by its official report, dated October 10, 1877, that the total "cost" of all its real estate, including its wires and poles, didn't exceed \$14,764,444.75?

A. Yes, sir.

Q. Will not \$1,000,000 more than cover the "cost" of any real estate it has since purchased?

A. Yes, sir.

Q. What is the actual value of the Western Union's capital?

A. \$36,966,069.00.

Q. Notwithstanding its recent division?

A. Yes, sir.

Q. Keeping before you the decision of the Court of Appeals, is not Western Union's lease taxable capital \$22,201,619.25?

A. I decline to answer.

Q. What was the market value of the capital of this corporation during last winter when the New York Tax Commissioners fixed upon their assessments?

A. Well, @ 115—\$47,293,402.15.

Q. Suppose the Tax Commissioners had fixed Western Union's taxable capital at \$32,528,957.40, as was their duty, do you think you could have got rid of it?

A. Yes, sir; by legislation. I think we could do it with the aid of Senator Robertson (one of our directors), and Mr. Wagner (palace cars), and Senator McCarthy.

A Few Easy Questions and Answers.

What is a chief?

A man who sits a good part of his time on a high stool watching a switch-board to see that the plugs don't fall out.

Is this his only labor?

No; he frequently takes a short stroll around the room to shake off the drowsiness that his constant watch produces, and to see that the other plugs do their duty.

Has he always been an officer?

Literally speaking, he has not, but it is so many years since he left the ranks that he is excusable for thinking he was born so.

What are their business qualifications as a class?

They have all done some marvellous work as operator in the past; are all thorough electricians; understand wires and their vagaries to perfection; can place a cross or a ground within an inch of the spot every time; in fact, this is their strongest point.

Are their tastes literary?

Most decidedly so. Each one of them owns a library of several hundred volumes, and, as may be supposed, all relating to matters of electricity. There is a widespread belief that they spend all their spare moments in conning over these valuable works, so as to be prepared to accept the advanced positions they will be called upon to fill in the near future.

What is their deportment toward their subordinates?

They are distinguished by a mild, gentle bearing while in the performance of their duties; act as if entirely unconscious of being a very superior class of individuals, and never forget that, though they have been hoisted into their present position by some fortuitous chance or combination of circumstances, they must not allow even a suspicion to enter the minds of those beneath them that they have reached their present elevation by other means than their own merits.

Give a summary of their character in general.

There are a few, too few, alas, who are upright, honorable gentlemen, and endeavor to act justly toward those with whom they are brought in contact, but the majority are noted for an utter incapacity to do justice to the situation; a strong tendency to cringe and fawn upon those who are a few steps higher up on the ladder, and a ("not to put too fine a point upon it") brutal disregard for the rights and feelings of the unfortunates who are compelled to recognize them as superiors, though in reality they are such only in name.

Albany, N. Y., Items.

We clip the following interesting item from the *Albany Morning Express*, a journal we should think old enough to know better. "The Western Union Telegraph Company is putting up, between New York and Buffalo, a duplex wire, five times as large as the wires in ordinary use, over which four messages can be sent at one time." Mr. Charles E. Shelley has been transferred to the Grand Union at Saratoga for the season, while Mr. H. L. Waterbury, night pressman, is holding the position of chief operator in the Saratoga main office. Miss Blanche A. Ould, operator at Canajoharie, N. Y., has the thanks of the Albany operators for the handsome bouquet of flowers sent by her to adorn the operating room. The American Union is making rapid strides in this vicinity. It has four wires O. K. to New York, and is now building from here both north and west. Mr. C.

H. Sewall has been appointed manager for Albany, Mr. Aspinwall for Troy, and Mr. Strong for Saratoga—all old A. & P. men. In a struggle between the American Union and Western Union to obtain control of the American District Telegraph system of Albany, which uses the Bell telephone as well as the call boxes, the former succeeded, consequently the District system will be worked in the interest of the new company. After failing in this attempt, the W. U. started an opposition telephone company, under the name of the Commercial Telephone Company, with W. A. Graves as general manager, and I. S. Kinch as superintendent. They are using Edison's pony crown telephone, and are meeting with surprising success, orders coming in faster than they can take care of them. They have organized in Troy, and telephone connection between the two cities will be made, same as the Bell Company has been working the past year. Thus it will be seen that the telegraph war promises to be rather warm in this vicinity. Mr. Orville Coates is working with us again, during the vacation at Madison University. Manhattan Beach is growing in favor as a resort for Albany telegraphers. XYZ.

Western Union's Rival.

The prediction, pretty generally made when the Western Union Telegraph Company purchased the lines of the Atlantic and Pacific Company, that a new and powerful opposition company would soon be started, is being verified very rapidly. The American Union Telegraph Company, which the Western Union seems to be fighting inch by inch, is spreading its net-work of wires with marvellous rapidity, and ere snow flies a well-equipped company will be in the field to bid for its share of the general business, and there is no doubt of its receiving it. The American Union seems to be avoiding the blunders which opposition companies have been prone to make. The latter usually built inferior lines, and worked them with the refuse from the Western Union offices—with men whose habits, dissipation or inexperience as operators had led to their being ostracized with their old employers. The new claimant for popular favor is building the finest lines that money will erect, they are selecting officers, construction men and operators with a view to their special fitness for the work in hand, and are, in fact, pursuing a liberal policy in every way. Their president, Mr. D. H. Bates, was one of the most largely trusted and highly esteemed attachés of the telegraphic branch of the war department here during the rebellion, while its most active servants in these embryonic days are men selected from high places in the Western Union service. Among them are John E. Zeublin and William G. Jones, of Philadelphia; M. Doren, of New York; Thomas Roche, of Boston, and Benjamin F. Lloyd, of Pittsburg. It is evident that President Bates is making it a point to erect superior lines, and his selection of men thus far indicates that he has in view the best possible service. With good wires and good operators no telegraph company will fail.—*Washington Republic*.

Gray's Harmonic, or Way Duplex.

By this system, a line employed for "way" work may, at the same time, be employed for "through" work between the terminal, or any other two points on the line, the service being performed in the same manner as if two single wires were used. The through work is done by the aid of a musical tone, which is transmitted over the wire while the other work is going on. An operator working the tone affects his correspondent's receiving apparatus by the use of a "vibrator" at his own station. The opening of the key that operates the tone sends the vibrations to the line, and, at the same time, cuts out the receiving apparatus at that station.

In a letter to Mr. Elisha Gray, the inventor, Supt. O. H. Booth, of Mansfield, Ohio, says: "I have used your way duplex successfully since Feb. 1, 1879. There have been very few interruptions to its constant working, and these principally incident to the inexperience of operators. They have been growing less frequent as the knowledge of the operators increased in reference to the system, and are now almost unknown. I work it every day on a way circuit two hundred miles long, securing two full circuits in place of one, and doubling the capacity for business. I see no reason why we cannot use it right along without limitation as to time, and fully expect to do so. I expect soon to adapt it to other circuits under my charge, as the growth of business

may make it necessary. Other lines, attracted by my success with the duplex, are watching it with favorable results and arranging for its adoption. It is the first and only really practicable and successful way duplex that has come under my observation."

Matters of Interest at the Hub.

If the old adage, "No news, is good news," be true, Boston must be a felicitous place at the present juncture. The gigantic monopoly appears to hold its own here, notwithstanding the absence of Assistant-General Superintendent Wood in Europe, Manager Milliken being Acting Superintendent.

The Western Union at this particular point of the earth's area may be compared to a huge serpent, with a duplex tail, the head and body of which comprise the W. U. proper, while the differential part consists on one side of the Gold & Stock Telegraph Company, and on the other, of the A. D. T. Co., both tails being ably run by Suel Smith. The Gold & Stock, in its turn, carries out the snake figure by sporting as a caudal appendage the New England agency of the American Speaking Telephone Company, which is run by W. F. Chester, lately Superintendent of the Manhattan Quotation Company of New York.

Telephone matters are at their usual Leadville state of briskness, which is even more apparent at the Hub than at other points, owing to Boston being the headquarters of the National Bell Telephone Company. An active competition is carried on between the rival companies. The Boston Manager of the Bell Company is E. T. Holmes, son of Mr. Holmes, of your city, he of the burglar alarm fame. The Rapid Company are advertising for young men and maidens to come and learn the art of perforating, and other branches of their service, promising to pay salaries after a service of two months. This is doubtless a *bona-fide* offer of employment, but reads very much like the notorious college advertisement. The Automatic Fire Signal Company of Boston, an off-shoot of the New York Company, of the same name, has passed within the last week into a state of suspended animation, and gave its last "kick" *pro tempore*, by discharging its Superintendent and all the employees, except one operator, who feels so lonesome that he would be moved to purchase strychnine, only that his salary won't admit of any luxuries. NEMO.

Boston, August 12.

Telegraph Colleges.

The writer of the following, a night train dispatcher, himself a graduate of a college, thinks that telegraph institutes are not so black as they are painted. Of course, he is entitled to his opinion. "By their fruits ye shall know them," is a very good rule to go by. From this point of view telegraph colleges are not a success. Their graduates obtain a very hazy idea of telegraphy, and are then turned adrift to swell the ranks of the great army of plugs, which is certainly large enough already. As for deception, we have yet to hear of the first college that does not practice it in some form; while the generality of so-called "Professors" essay telegraphy because they cannot obtain a situation in any capacity of the business.

In your issue of August 1st is an article entitled "Telegraph Superintendents and Telegraph Colleges." I see you are a brother operator, and I am thoroughly conversant with the point you try to sustain; but can we do it and do justice to fellow man. It is for each young man or boy to choose the avocation that he thinks best suited to his nature. For instance, a delicate man is best suited with light employment. We cannot all be operators; neither can all be farmers. We want enough in each department to carry on all the business of the world, looking forward to the time when we will be no more. From observation, good, reliable operators are not plenty. In this case, it is for us to know the best way or mode of instruction so that we may be supplied. I am not in favor of colleges that use deception in any shape or form; but having learned the profession myself in the best college in the United States, I speak from experience. In a first-class college, instruction can be had which cannot be obtained in any other way. Theory is taught together with all the apparatus necessary for explanation; thus a young man or lady by close ap-

plication and diligence may obtain a good start in the profession, after which all they need is practice and experience in actual business, if they can get this opportunity.

J. P. McKINLEY.

Crosby J. Ryan's Condition.

MR. EDITOR: The following self-explanatory letter received by me from Crosby J. Ryan, acknowledging a little donation contributed by our force, may be of interest to his many friends; and perhaps when his condition is known to be so serious, those who otherwise might overlook the matter may render him further assistance.

Very truly yours,
P. V. DEGRAW.

N. Y. ASSOCIATED PRESS, Washington, D. C.
DETROIT, MICH., July 10th, 1879.

P. V. DEGRAW, Esq., Dear Sir: Your letter and \$16 inclosed came to hand yesterday. It was as unexpected as it was welcome. To say that I am thankful to you and the other gentlemen would but poorly express my gratitude. That I am grateful to you, very, very grateful, I can assure you. On the day your letter came my wife and children had had nothing to eat except rye bread and water. From the first of July up to the day your letter arrived we had but \$1.85 to subsist upon. When you understand that there are seven of us—wife and myself and five children—you can readily imagine how welcome your letter was. We all join in thanking you and the rest of our friends, and I pray that none of you may ever experience the troubles and trials I have come through. I hope it will be many, many years before the N. Y. Associated Press wire dissolves partnership with the noble men who remembered me in my time of need.

Yours, very truly and gratefully,
CROSBY J. RYAN.

Dashes Here and There.

The best wire pullers: line repairers.

Whenever lightning begins to play it raises thunder.—*Philadelphia Times*.

An operator who lacks good judgment and a fair education, has his labor increased to a considerable extent.

Already one of the companies formed in England for the introduction of the electric light has come to grief, and is in liquidation.

It is suggested to Mr. Edison that an ounce of invention is worth a pound of talk about the electric light.—*Syracuse Sunday Times*.

"The Electric Light" is the name of a new American comic opera, to be produced in Baltimore. The words are by William Hazen and Edward Spencer, and the music by Professor Faust.

A new story, just published, is called "Wired Love." This is shocking. To get love "on a string" is bad enough, but to wire him is brutal. It is a graphic story, however—telegraphic.—*Norfolk Herald*.

The necessity of the construction of a shore telegraph line in the Gulf of St. Lawrence, for which the Dominion Government has recently given a contract to the Dominion Telegraph Company, is painfully shown in the recent disaster to the steamship "City of Virginia," on Sable Island. The new line will be erected along the coast, parallel with the island, and had the work been completed, there would have been no necessity for the survivors of the wreck to travel inland one hundred miles to make connection with a place of assistance. The new shore line is now being constructed, and will be in operation this fall.

San Juan has long urgently demanded telegraphic facilities, and the demand has at last been heeded. To Mr. F. J. Pratt, President of the Mineral Point Tunnel Company, credit is chiefly due for securing it, he having personally guaranteed the cost of construction and induced General Anson Stager, Vice-President of the Western Union Company, to promise the extension of its lines hither. The citizens of Ouray have subscribed \$700, the amount asked for the extension from Lake City to Ouray. Five hundred dollars was asked of Animas Forks, and \$1,000 of Silverton, which amounts, we presume, will be readily pledged, if not already done. The line is to be extended from Del Norte up the Rio Grande and to Antelope Springs to Lake City, thence to the other points named, and to be completed by October 1.—*Silver World*, Lake City, Col.

Notice a woman when she receives a telegram. How it does scare her! She trembles like a dish of jelly, and imagines all sorts of things. Her husband has fallen down the hatchway at his warehouse. Her Johnny has gone out sailing, and is drowned. Her sister Maria has been scalded to death. Nothing short of a fatal accident quite fills the bill of her imagination. When she finally summons courage to tear open the envelope, she finds a message from her husband, warning her that he will bring a customer home to dinner, and she immediately calls the children together and instructs them not to ask twice for raspberries, as there's just enough to go around and give the visitor a few extra.—*Puck*.

The Binghamton *Republican* gives the following account of a very strange effect of lightning on the body of a boy who was recently killed in a thunderstorm: "After Jimmy Stevens, the boy killed by lightning on Tuesday, was taken home, and while the corpse was being prepared by the undertaker for burial, a picture resembling a photograph of a butternut limb came out on his back very distinctly, and stayed there. It is certain that this print was upon his back before he was taken home. Photographing in this manner is often performed by lightning. Jimmy's back was bare when he was killed, and the bush which was photographed upon his skin was just over his bare back."

"THREE IN A CONVERSATION MAKES CONFUSION."—Scene: a public office in Rochester; *Dramatis personae*: the clerk in charge and an elderly lady from the country; Position: clerk with telephone at his ear and facing the entrance, lady entering. Clerk: "Halloo!" Lady: "I come to see —" Clerk: "Who are you?" Lady: "My name is Smith." Clerk: "Can't hear you." Lady: "My name is —" Clerk: "I will come and see you to-night. What time shall I come?" Lady (excitedly): "Who asked you to come?" Clerk: "Take her off." Lady: "I will go without being taken." Clerk (blandly): "What do you wish, madam?" Curtain.—*Rochester Express*.

PERSONALS.

Charles Worch, night operator at Hillyard station, on the Pittsburgh, Cincinnati and St. Louis Railway, was accidentally shot by his sweetheart recently. They were examining an unloaded pistol at her house, and Mr. Worch put a cartridge in the cylinder of it. Not being aware of the latter, the lady playfully pointed the pistol at Mr. Worch, and the cartridge exploded. Mr. Worch was shot in the head, but it was thought that he might recover.

MILWAUKEE.—Fred. Parker, formerly night man in this city, now taking night report at Madison, Wis., was in to see the boys the other day. No one could be more welcome. Ed. Delano and Nelson Collette, both lately from the west, are working days here. Messrs. Rogers and Jenks, from Minneapolis, were in to see us the other day. They are both excellent operators. Ed. Thomas, an old timer who has been all over the east and west, is sending night report here.

Charles W. Ross, chief operator of the Western Union office at Columbus, has purchased the telephone exchange, managed by G. H. Twiss. He made the purchase for the Western Union with a view of consolidating the telephone business in that city under its management. Mr. Ross is to be superintendent of the new exchange, and Mr. Twiss manager. The working of the exchange will be changed in some respects, for what is believed by the new managers to be a better scheme. C. W. Ross has taken 1,000 tickets in the band and military tournament, for the men at the Western Union offices.—*Railroader*.

Looking through last issue of THE OPERATOR I find a crooked superintendent telegraph and dispatcher. Now, I can tell you where to find one just the opposite, and as good a man as ever waited lightning. That person is Dick E. Mulcahy, superintendent telegraph and train dispatcher, Cincinnati, Wabash & Michigan Railway, at Elkhart, Ind. As a general thing, when our boys become superintendents they feel somewhat upon a sheet of paper. Not so with Dick. He's the same old boy that he used to be. He is a friend to an operator, but don't say student. If the superintendents throughout the country would put their foot down upon the student evil in a manner like Dick they would earn the thanks of the fraternity.

ANDERSON, IND.

EASTON, PA.—On Monday evening, August 5, Edward N. Lee, of Phillipsburg, N. J., private secretary of Mr. G. H. Grace, assistant superintendent of the Western Union Telegraph Company, and Superintendent of Telegraph of the Central Railroad of New Jersey, was presented with a handsome gold-headed cane, by his most intimate operator friends. The name of the recipient was engraved on the top, and the initials of the donors on the sides of the head. The operators met in the parlor of the Franklin House, in Easton, at half past nine P. M., when Mr. Lee, who is deservedly popular among the boys, was brought in by Mr. Grace. Mr. John M. Odenwelder presented the cane in a few well chosen words. Mr. Lee was taken so completely by surprise that he was unable to express his thanks, and called upon Mr. J. H. Hosley to respond for him. Mr. Hosley made a very humorous reply, and a few minutes after these present were invited to the dining room, and sat down to a magnificently spread table.

TEXAS AND PAC. R. R., SOUTHERN DIV.—At Marshall, L. H. Clawson, F. M. Rains, and W. F. Maxwell are dispatchers. Clawson is also division operator. L. H. Johnson is day and Lancaster night man at Hallville. R. R. Chaney and C. W. Sheldon preside at Longview Junction. At Longview J. P. Morrison is manager W. U. and T. & P. offices. Mr. Saddler is at Gladewater. A. R. Bradley, the terror of the line, is at Big Sandy. Matt Holloway is day man and Lacy owl at Hawkins. J. W. Chatham is manager and L. C. Keckham night man at Mineola. Mr. Stevens is at Grand Saline and Big Barre at Edgewood. A. McMorris is day and Geo. Langston night man at Will's Point. L. S. Geise is at Elmo, McSpadden and Stillwell at Terrell, W. B. Ector at Lawrence, J. C. Ocheltree at Forney, and J. P. Lurn at Mesquite. At Union Depot, Dallas, W. Baird and D. P. Boyd manipulate for the H. & T. C., and T. & P. Railway. Miss Crookston is manager for Texas & Pacific commercial office, Dallas. Geo. Vivian is at Eagle Ford, A. C. Ayers at Arlington, and at Ft. Worth, the western terminus, E. P. Turner is day and P. D. Mortimer night man. C. D. Andrus is extra operator.

EASTERN R. R. NOTES.—Since our former Superintendent, Mr. H. N. Rowell, left us, the changes on this line have been quite numerous, and, as a rule, for the worse. Among the more prominent changes is the promotion of Scannell from operator to assistant train dispatcher, a very acceptable change for the boys. His successor is Seward of Portland, who was relieved by E. Sands, an "old timer," who has since been appointed mountain agent of the E. R. R., at the Fabyan House. M. J. Kenna, of Concord, N. H., now occupies the chair at "Pa." T. W. Starkey, formerly "owl" at Saco, Me., has been appointed station master at the same place, filling the vacancy caused by the death of E. L. Blodgett, who committed suicide. He was succeeded as night operator by McIntire, who was transferred from the superintendent's office in Boston, S. D. Forristall, formerly "sub," filling the vacancy in Boston. Marden of Salem, who has relinquished the "joys" of bachelorhood and taken unto himself a wife, has also discarded telegraphy, and accepted a position as ticket-seller in the E. R. R. depot in Salem. His position was filled by Nat. McIntire, who was transferred from Saco. W. P. Wallace, of Portsmouth, has been appointed night operator at Saco, vice Mc. "Jack" Kenna still assists H. M. Forristall days in the Boston office. Jack says he is growing fat on it. They don't, however, get an opportunity of growing very lazy.

MARRIAGES.

CASEY-RHOADES.—On Tuesday, July 29, at St. Vincent de Paul's Catholic Church, 127 West 23d Street, Mr. P. J. Casey, manager of 12 West 23d Street office, to Miss Sadie H. Rhoades. Mr. and Mrs. Casey are stopping for the present at the West End Hotel, Long Branch, where Mr. Casey has charge of the telegraph business during the summer season.

ROCK-LAND.—July 29, at the residence of the bride's mother, in Monroe, N. C., E. B. Rock, agent and operator C. C. Ity., Grifflinville, N. C., to Miss May E. Land.

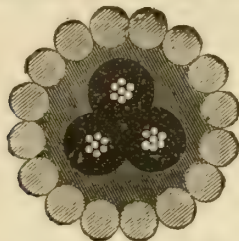
BIRTHS.

Aug. 5, to Dan Murry, operator and lineman, W. U. Tel., Kinzua, Pa., a son.

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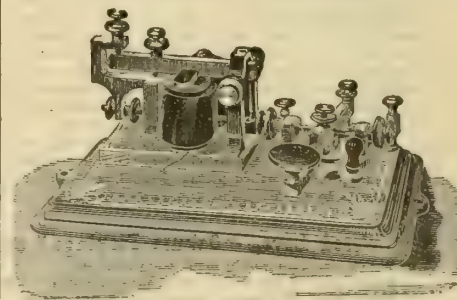
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MAGNETO AND BATTERY CALL BELLS,

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And every kind of Electrical Apparatus at lowest possible
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On account of our largely increased business, we
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Where we have increased facilities for supplying the
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TRENTON, N. J.,

And No. 117 LIBERTY STREET, NEW YORK,

Manufacturers of

Galvanized Telegraph Wire

OF ALL QUALITIES.

No.	Wire in	1	mile bundles,	550 lbs. per mile.
6	"	1	470	"
7	"	1	388	"
8	"	1	330	"
9	"	1	298	"
10	"	1	216	"
11	"	1	168	"
12	"	1	98	"
14	"	1		"

This Wire possesses the highest electrical con-
ductivity, which is necessary to make Telegraph and
Telephone Lines work with certainty and ease.
Special attention given to

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MANUFACTURER OF

Kerite Insulated Telegraph Wire
AND CABLES,

[Office, 120 Broadway, New York.

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The discovery of the insulating compound known as Kerite is the result of more than ten years of uninterrupted experiment and application, as well as twenty years previous experiment and experience in the manufacture of India rubber. About ten years of this time was spent in assisting Mr. Charles Good-year in the experimental department, while perfecting his improvements in vulcanized India-rubber and its varied applications.

The necessities of the telegraph business requiring an indestructible insulation, stimulated me to the discovery and perfecting of my compound known as Kerite, which combines the great advantage of durability with perfect insulation.

Kerite insulation is proof against the action of the corrosive elements in the earth, air, and water; and, where it has been practically tested, has proved its superiority to all other insulation.

Durable Qualities of Kerite.

It is not injuriously affected by the extremes of heat and cold experienced in our climate, nor by length of exposure in the atmosphere.

It will endure long-continued heat below 200° Fahrenheit, while for short intervals it may be subjected to 250° to 300°; and it may be safely immersed in boiling water.

The action of water, salt or fresh, not only protects all its qualities, but very much improves its insulation.

It is also unchanged by being placed in the ground. Any corrosive elements in the earth do not act upon it; nor is it injured by the roots of plants, which soon destroy gutta-percha.

There are thousands of miles in use throughout the country, by Fire Alarm and other Telegraph Companies of all our principal cities.

It has been used largely in the city of New York, under all conditions and exposures, for the last nine years.

Constant exposure to the sun and atmospheric changes are the severest tests that can be given it in practical use.

EMINENT ELECTRICIANS AND PRACTICAL TELEGRAPHISTS

commend and recognize the Kerite insulation as superior to all others.

GROVER B. PRESCOTT, Esq., Electrician of the Western Union Telegraph Company under date of Sept. 25, 1874, says:—"In September, 1869, we placed some of your Kerite wire, unprotected by any covering whatever, in the tunnel under the river in Chicago, and have since continued its use in that exposed situation with the most gratifying results. A portion of the tunnel is very wet, and water saturated with lime constantly drips upon the wires, while in other portions they are kept alternately wet and dry, which is well known to be one of the severest tests that any insulating material of an organic nature can be subjected to; and yet, after five years' exposure, under the above conditions, the Kerite covering shows no signs of decay or deterioration. An insulating covering of India-rubber or gutta-percha under a like exposure, would have been destroyed in much less time."

February 12, 1877, he writes further, "This piece of Kerite wire, unprotected by any covering, was in use in the tunnel under the river in Chicago from Sept. 1869 until December, 1876, and shows no signs of decay or deterioration in its insulating qualities."

Prof. MOSES G. FARMER says, "I have used your Kerite as leading wire more or less for four or five years. It stands abuse, changes of temperature, alternate wetting and drying better than any insulator I have tried."

Messrs. GAY, WATSON & CO., proprietors of the American Fire Alarm and Police Telegraph have used the Kerite wire for ten years. They say: "We have placed it in use in some sixty cities extending from Halifax, Nova Scotia, on the north to New Orleans and San Francisco, on the south and west, embracing every variety of climate, and it has proved itself to be, under all circumstances, the most reliable and indestructible insulator known to us for telegraphic purposes."

Mr. M. A. HARDY says: "I have used it not only in this country, but also in Egypt, where it was subjected without injury, to the most severe treatment. * * * I also had the Kerite cable for several months in the Mediterranean Sea, and always found it reliable and unaffected by the ravages of 'teredo'."

Many other equally favorable and satisfactory commendatory letters are in the possession of the proprietor.

At the Centennial Exhibition at Philadelphia, Sir WILLIAM THOMSON, the eminent electrician and scientist, awarded to the

KERITE INSULATED WIRE AND CABLES

A DIPLOMA FOR

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CURE. No remedy ever discovered equals it for certainty of action in stopping the lameness and removing the Bunch. Price, \$1.00. Send for a Circular, giving positive proof, and your nearest agent's address. Sold by Druggists, or sent to any address by the Inventor, B. J. KENDALL, M.D., Enosburgh Falls, Vt. C. M. MOSEMAN & BROS., Agents, 128 Chambers Street, New York. W. H. SCHIEFFELIN & CO., Wholesale Agents, 170 William Street, New York City.

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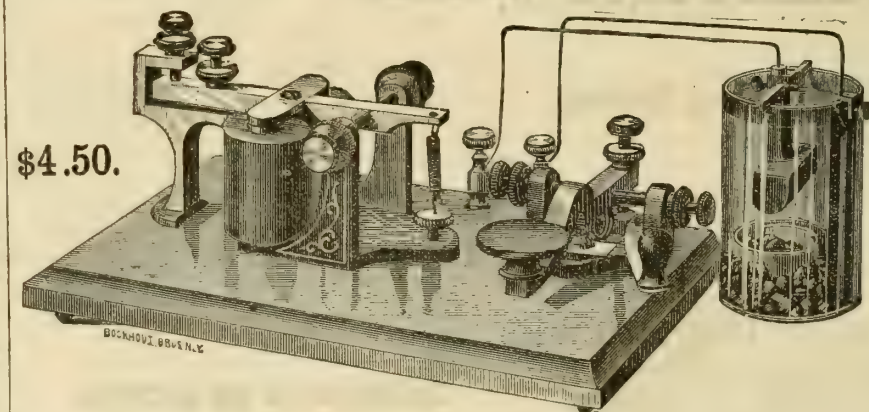
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For the above complete and Perfect Sounder and Key Combined, on mahogany base, including Battery, Chemicals, Wire, Book of Instruction, and everything necessary for a **FIRST-CLASS TELEGRAPH OUTFIT** for the Student's use, for practice AT HOME, or for operating ALL SHORT LINES OF TELEGRAPH. Instruments without Battery, \$3.50; same, by mail, postpaid, \$4.30. Instruments without Battery, wound with fine wire for lines 1 to 15 miles, \$4.50; same, by mail, postpaid, \$5.00. Cell of Battery, 65 cents. Instruction Book, 50 cents. Galvanized Telegraph Wire, per 100 feet, 30 cents. Remit by Postal Money Order, Draft, or Registered Letter.

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THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY.

September 1st, 1879.

Volume X.

Whole No. 133.

"Church Bells."

Ring on, sweet bells. Sweet bells, ring on.
Strike music through the shattered air.
Call up, with restful, silver tone
The weary to the house of prayer.

Peal on, and every echo sweet,
Repeated by the listening hills,
Shall summon worn and straying feet
To pause where God the presence fills.

Ring out a clang for childhood's ear,
Send joy with every throbbing sound,
And glad, young hearts, afar and near,
With holy happiness shall bound.

Swing softly, aged thoughts are turned
From these sweet sounds so soft and low,
To other Sabbath days that burned
And Sabbath bells of long ago.

Toll slowly, sadly, solemn bells,
In measured, mournful, muffled waves,
Each booming intonation tells
Of broken hearts and new made graves.

Break jubilantly forth in song,
Glad Christmas bells, proclaim to them
Who hopeless cry, "Oh, Lord, how long!"
"Lo! Christ is born in Bethlehem."

LUDLOW GROVE, O., AUG. 24, 1879.

SUMAC.

Important Suggestions for the New Company.

We are glad to hear, through THE OPERATOR, of the progress being made by the American Union Telegraph Company in extending its lines over the Eastern portion of the United States, and we should like to hear that they have commenced the construction of overland wires to the Pacific. We have just a sufficiently exalted opinion of ourselves out here to imagine that no new telegraph company can successfully compete with the present corporation, unless it pays as much attention to the interests of the Western coast as it does to those of the East. The writer is not familiar with the terms of the contract between the Western Union and the Pacific Railroads, but that the new company "will connect at Omaha with the Union Pacific lines," as stated in THE OPERATOR of August 1st, we very much doubt. At present, and ever since the consolidation with the A. & P., the Western Union has apparently had complete control of the lines of the Pacific Railroads between Omaha and San Francisco. Whatever may be the nature of the agreement between the railroad and the telegraph company, it certainly is not such as to admit of the American Union assuming the control of the railroad lines which the Western Union now exercises. But even if it were possible for it to do so, they would not by any means enjoy the "same facilities to the Pacific coast" as the Western Union does. The disadvantages under which a commercial telegraph company labors when dependent upon railroad wires is very apparent. The railroad business must always have the preference over everything else, and a new organization, with a reputation to build up, should not place itself in such a dependent position. There is scarcely an operator in the country who does not wish the "American Union" success, but if its management should at any time fall into the hands of impractical theorists, who have not the actual knowledge of the business which only experience gives, it will speedily go "where the woodbine twineth." A few suggestions which occur to one of its most fervent well-wishers may not come amiss.

The new company must avoid the errors into

which its predecessors fell. Tariffs should not be cut down to a money-losing basis. A strict attention to the demands of the public, which will consist in the transmission of messages with the least possible delay, and a reasonable reduction in tolls, will be all that is required to gain universal patronage. To achieve the first-named requisite, the officials of the company must recognize the fact that first-class work cannot be accomplished by poor operators who lack experience and judgment; that employes should be rewarded according to their merit, judging not by their skill alone, but also by their general character and personal integrity. By keeping in mind the fact that operators are generally men of intelligence, and not necessarily inferior in capability to those in authority over them, the officials of the company will understand that, leaving all question of right aside, it is the best policy to be liberal and just with their employes, who will show their appreciation by taking a personal interest in the affairs of the company, and be zealous in working for its prosperity. That the Western Union, by its "sliding scales," and by upholding the frequent acts of tyrannical littleness committed by petty officials, has alienated from its interests, to a great extent, a large majority of the men in its employ, is an undisputable fact. It may be natural for men to abuse their power, and perhaps many of us would do precisely as Western Union officials have done in their efforts to squeeze out dividends, but is it not short-sighted policy, and is it not possible that it would have been to their interest financially to have exercised more liberality and justice?

The American Union Company should own and have complete control of several overland wires from the Atlantic to the Pacific, and these wires should follow at least two different routes. The Western Union wires follow two independent courses from San Francisco to Salt Lake—not all the way, but at least over the worst portion of the country—and yet, even now, communication with the East is frequently interrupted on all these routes during the winter. With one, two, or three wires on the same poles, an opposition company will not be able to successfully compete with the Western Union for Pacific Coast business. Let those who are controlling the interests of the new company turn their eyes southward. They are intelligent men, and doubtless are aware that within two years a railroad will span the continent by a route which will leave the Union and Central Pacific roads comparatively deserted! Indeed, it is now a question in the minds of some whether the managers of the present overland route do not intend to entirely abandon that expensive highway over the sierras, and supersede it by the Southern Pacific. The latter road is already completed nearly two hundred miles east of the Colorado River into Arizona. Within a year it will have nearly spanned the four hundred miles that separate the present terminus from El Paso, Texas. As fast as the road is pushed forward, a telegraph line, used jointly by the Western Union and the railroad company, is stretched eastward over that rapidly growing country. Within two years, or upon the completion of the road, the Western Union will have at least one first-class working wire to the East through Arizona, New Mexico, and Texas. This southern route is better adapted to the successful working of a telegraph wire than perhaps any other section of country that could be selected for the same distance. A well constructed line would seldom be prostrated by storms, and, especially through Arizona, the atmosphere is so dry as to be exceedingly favorable for telegraphic purposes. It is true that there are occasionally electrical storms in that region, but the trouble they cause is only of temporary duration.

The American Union has a grand opportunity. Let it construct one or more lines along the route of the Southern Pacific road, from San Francisco southward along the coast, thence eastward across Arizona, New Mexico, and Texas, connecting with southern and eastern cities, and with proper management its success is assured. But to succeed, it must act promptly and get ahead of its powerful and only rival, which already has so many

advantages in its favor. The local telegraphic business between Omaha and Sacramento is of comparatively little importance. Shortly after the completion of the Southern Pacific Railroad, the telegraphic interests of the rich mining regions of Arizona and New Mexico will be of such an extent as to make a well-managed telegraph line through those Territories a paying investment, simply because of the local patronage. If it is within the limits of possibility for the new company to anticipate the Western Union through the region alluded to, it can secure local business of what is probably destined to be the richest mining country in the world, and at the same time secure a reliable route for its lines from ocean to ocean. The United States has a poorly constructed, unreliable line through Denison and El Paso, Texas, and Arizona to San Diego, Southern California, but it would be to the Government's interest to abandon it in favor of a wide-awake company which would erect a good line and do Government business more efficiently than it is at present done by "Uncle Sam's clothes line." Let the American Union send its lobbyists to Washington at once. All this would doubtless cost a large expenditure of capital, but if the new company has not a million or two of dollars to expend on its enterprise at the outset, it may as well subside at once, and not delude a too-confiding public into cherishing the idea that at last there is to be a bona fide "opposition" telegraph company!

In conclusion, the writer would say to those who preside over the destinies of the new company: You have a grand opportunity for success, if you are financially situated so as to successfully accomplish all you propose to do. The public is ready to give at once its patronage to a liberal, well-managed telegraph company, such as the American Union is supposed to be. Outside of Western Union officials, and the stockholders of that company, you will meet with no other expression than that of sympathy from every one connected with telegraphy throughout the country. As for the operators, upon whom to a certain degree you are dependent for success, and who are in turn dependent to the same extent upon you, they do not credit you with being philanthropists whose sole object is to benefit humanity; they know better, and simply trust that you are shrewd, far-seeing business men, who will recognize the policy of treating all your employes as men, and not simply as machines to be wound up by a monthly salary, and therefore warranted to run thirty or thirty-one days! CALIFORNIA.

The Encouraging Outlook for Operators.

There is getting to be an alarming scarcity of good telegraph operators, and the leading companies are already beginning to experience considerable difficulty in obtaining competent men. For the past two years the Western Union has enjoyed a monopoly of the commercial telegraph business in this country, and, feeling perfectly secure, began cutting down the wages of their employes to such an extent that large numbers of them turned their attention to more lucrative pursuits, until at the present time this company suddenly discovers that their best men have left them, and first-class operators are at a premium. Not only is the Western Union suffering on account of their short sighted stroke of economy, but the railroads are just learning that something is wrong somewhere, and that it does not require a philosopher to determine the cause of the trouble, namely—a too great reduction in wages. Until within the past few years almost every office had its student, and the salaries commanded were an inducement to young men of education and ability to learn telegraphing. Now it is quite different. While there are exceptions, the mass of students are boys whose dislike for the school room has led them to embrace almost any opportunity to escape study, or indigent young men who would gain a livelihood at something that does not favor very strongly of manual labor. Their mental qualifications are generally a secondary consideration with them, and they imagine that if they can only succeed in mastering the alphabet sufficiently to send and receive a message, they are then full fledged operators, at once apply, and too frequently receive charge of an office. This is a great mistake, and often a fatal one, particularly in the

case of railroad employes, in whose hands the lives of thousands of people are daily and nightly intrusted. A railroad telegraph operator should be a person of clear, keen judgment, for exigencies often arise where prompt action is necessary, and a few minutes of wavering or hesitancy would result in a horrible catastrophe. We personally know of a case where a dispatcher addressed an order to an operator at station "B" to hold all east bound trains at his station until a certain west bound train had arrived there. The order was repeated by the operator, and pronounced correct by the dispatcher, whereupon another order was issued to the conductor and engineer of the west bound train at station "A," to run to "B," with the "right of road." Upon receiving "correct" from the dispatcher it was the duty of the operator at station "B" to put out his flag, in order to stop the coming train, but his attention being immediately called to answer another wire, he forgot the flag, and the train he had orders to stop passed his station before he discovered his mistake. The operator at "C," having heard the order given the operator at "B" to hold the west bound train until an east bound one had arrived, and seeing the train approaching station C, flagged it, and thus by his presence of mind doubtless saved many lives. This case is merely cited to show how an intelligent, wide-awake operator may sometimes find it in his power to avert a threatened catastrophe.

It is not necessary to further argue upon the importance of having clear-headed, reliable men in these positions, for it must be patent to all. But, as before stated, these men will not work for the mere pittance which the companies allow them, and the consequence is that inferior men are employed. On commercial lines serious mistakes frequently occur in transmitting and receiving messages pertaining to financial business, and the sender or receiver is often seriously embarrassed on account of the blunder of some second, or even third-rate operator. When a single touch of the key sometimes represents hundreds of dollars, it will be seen that the utmost care and skill is necessary at both ends of the line.

One great stumbling block which lies in the way of practical operators are the colleges where telegraphing is taught as one of their branches. Here the student merely gets a smattering of the art, theoretically, without any practical knowledge of the business. He knows nothing of routine work, or the effect of changeable weather upon the wires, or the many intricate points connected with every day telegraphing. These institutions scent an approaching crisis, and are making strenuous efforts to meet a new and not imaginary emergency.—*Williamsport Pa. Breakfast Table.*

How an Operator Was Taught Humility.

Less than three years ago, the night office near "Nigger Hollow" was under the management of one Darius Coupé. Now Darius had formerly been employed as a track hand, but owing to the kindness of some philanthropic disciple of Morse, he was made familiar enough with the mechanical duties of the profession to enable him to transmit messages slowly, and receive them on paper quite readily. Upon being appointed "owl" at the lonely station of Brandonville, at the munificent salary of thirty-two dollars per month, Darius imagined he had reached the highest pinnacle on the road to wealth and fame. Dwelling in such close proximity to the "mystic realm," of course our former repairman could not be expected to notice any of his fellow mortals who occupied spheres less elevated than himself. The train men becoming tired of seeing this exalted piece of humanity growing more pompous day by day, resolved to make him the butt of a practical joke, hoping by this means to bring him to a due appreciation of the lowliness of his position, and the contempt with which the majority of the employes regarded him. How they succeeded the sequel will show. One evening while several crews were at my office awaiting the arrival of cars from connecting roads, I was instructed how to proceed, and thereupon opened my key, and began calling "Mu." I was soon greeted with "I I D M U," and proceeded as follows:

"Just saw your brother; he says you are looking unwell. What's up?"

"Nothing," replied Darius. "I never felt better in my life."

With this I had to drop the conversation to attend to other duties, but took time to post several of the "owls" on another wire, how they were to proceed, each of whom took occasion to sympathize

with our afflicted brother, offering such words of cheer and comfort as would be appropriate to one suffering from some terrible malady. Scarcely had the last words of sympathy ceased, and while yet our confiding friend was trying to dispel the gloomy thoughts which had taken possession of his soul, when train No. 46 pulled slowly into Brandonville to await further instructions. After getting "correct" to orders, Conductor Andrews said, "Mr. Coupé, what makes you look so pale to-night? Ain't you well?"

Thinking Andrew was in earnest, Darius replied: "Several of the operators tell me I am looking unwell, but I've felt friskate until a little while ago. Guess I've been smoking too much."

"Better give it up then," says Andrew. "Make us a present of your pipe?"

Handing the pipe to the tender-hearted conductor, Mr. Coupé replied: "All right, here it is, and welcome. Here's my tobacco, too."

"Thanks," said Andrew, and lighting the meerschau, he boarded his train, and was soon lost in the distance.

No. 46 had scarcely passed out of sight when a second section stopped at the office for orders. After receiving their manifolds, Conductor Stephenson looked critically at the young innocent, and suddenly exclaimed: "Goodness alive, man! what is the matter with you? you look as pale as a ghost."

"I don't know," said Darius, "Every one who sees me says I am looking badly. Guess I will give up chewing tobacco. Do you want my pouch?"

"Well, yes," said Stephenson, "if you don't want it. Thanks. Hope you will feel better in a few days."

With these remarks he, too, was off, and our young friend was once more left entirely alone. Sinking into a profound study he became entirely oblivious as to what was transpiring around him, and would probably have remained in this state until morning had not the fast freight's whistle disturbed his meditations, and warned him that he was needed for more active service.

Upon being notified how to move his train, Conductor Berk remarked: "Young fellow, what have you been doing to yourself? you look about half dead."

"Been feeling unwell for a few days. Guess I'm bilious," said Coupé.

"Better see Dr. Mildose at the Junction; he's the best doctor on the road," suggested Berk.

Convinced that he was actually sick, our invalid replied, "All right, I will see him to-morrow; hope I have not let my case run on too long."

Restraining himself with a violent effort, Berk assured our colleague that he would find Dr. Mildose capable of effecting a speedy cure if it were possible, and then giving the signal, his train moved plowly up the hill. Soon as the train was out of sight, our too credulous friend, now about half frightened to death, ran over to the agent's room, and after rousing him from a sound sleep, exclaimed in agonizing tones; "Barton, I'm awfully sick, will have to see a doctor at once, please come down and work for me."

Just a little bit mad, Barton dressed himself, and reached the office in time to allow the sick man to board the last freight north.

Eight o'clock next morning found friend Darius at the office of Dr. Mildose. Now it happened that the doctor had been posted regarding this patient, and agreed to carry out the joke. Feeling the invalid's pulse, examining his tongue, and asking him a score of questions, the doctor drew a long breath, put on a knowing look, and retired to his laboratory. After some time had passed he reappeared, bearing a large bottle of wicked-looking stuff—but which in reality was licorice water—bearing necessary directions, with a few hints as to the diet and so forth, the doctor assured Darius that a second visit would be unnecessary, so with a happy heart he paid the fee, and started homeward.

Following the doctor's instructions faithfully, Darius soon regained his former health. One evening while thinking of his remarkable recovery, he was handed a package, in which was a meerschau pipe, a tobacco pouch, and a note addressed to himself, which read about as follows:

"Most Innocent Young Friend:—Hereafter do not fly your kite so high. We have at last ascertained your true calibre. You were no more sick than any of us. Show yourself a man by admitting yourself beaten, this with cigars for the boys on 'The Hill' will be sufficient. The doctor says 'nothing like licorice water for biliousness.' How do you feel to night?"

(signed)

SOME OF THE BOYS."

Imagine, if you can, the feelings of the young

man of twenty-three upon reading the above note. He at last saw the point, and knowing that he could not cope successfully against such odds, bought silence and good will by distributing among the train men a bountiful supply of "two-fors." The doctor's fee enabled those at the Junction to offer "cop(e)ious libations to Bacchus." Thenceforth Darius knew his place, and became "one of the boys." NVL.

How to Keep Well.

A correspondent writes to Rev. Henry Ward Beecher, editor of the *Christian Union*, as follows:

"DEAR SIR: Will you please give, in the columns of the *Christian Union*, your rules for preserving health. A good many of your readers would like to know how it is that you have been able to go through so much, and to do so much, and yet retain your vigor and good spirits. We want the secret of your own experience."

To this Mr. Beecher replies:

Being born with a good body, regard it as a machine, and keep it in perfect order by the same methods by which you would keep any other machine in order. The body is an engine; food is the fuel; blood is the steam; the head is the cylinder where the steam works. One must not create, by too much fuel, an excess of steam; that will strain the engine, and make poor work. You must not let the fuel get out, and the fire grow low; then the engine will not work at all. Most men eat because they are hungry, or because the food tastes good. Those are two very respectable facts; nevertheless, a man who is working ought to eat rather with reference to what he has to do, determining both quality and quantity by that consideration. He should sort his food as an engineer does his coal and his pine wood. If I have to do a pretty sharp morning's work, I eat eggs, toasted bread, and coffee, which combine a great deal of nourishment with a very little weight, and are easily digested. On the yolks of two boiled eggs, a slice of toast, and a cup of coffee, I can work from eight to two without a break. I do not eat the white of the egg. Rice, whites of egg, and cotton-wool are all alike to me. In summer, I generally make my breakfast of bread and fruits. Next to firing-up comes clearing out the ashes. What is called being tired is nothing in the world but ashes in the body; for every vital act involves a consumption of fibre or nerve material, and the consumed material collects. When a man has been working all day, whether with his brain or with his muscles, his body is full of waste material which has not yet been carried off. When he goes to sleep, the whole system recuperates and re-integrates itself; the brain recovers; the various capillaries and excretive organs take up the waste, and clean the system out. In the morning, every man ought to give nature an opportunity to complete this cleansing operation, and he ought not to begin work until it is completed. A great deal of waste should pass off through the skin, and it is of the utmost importance that its pores should be kept open, that they may do their work well. I have been accustomed most of my life to take a cold bath in the morning when I get out of bed. That, however, is an experiment which every man must try for himself. If he does not get up a reaction, and the cold water turns his lips and nails blue, he must modify it. But I recommend a daily bath in one form or another. Sleep is a great restorer of nervous energy, and it ought to be taken regularly and systematically. A recent paragraph in the *New York Tribune* reports a German professor as saying that most people who have reached the age of eighty, have worked till the small hours of the morning and slept till noon. We shall next have him reporting that the man who daily drinks eight gallons of Bavarian beer outlives everybody else! I think a man should go to bed at ten o'clock, though I do not go myself till eleven. Eight hours is a fair amount of sleep. Where a man is living under pressure, where his employment necessitates incessant brain-work of an exciting kind, more sleep may be necessary. Good fuel, well adjusted to the capacities of your machine and the work it has to do, an engine kept clean, inside and out, and sleep enough, constitutes the essential physical conditions of health. There is one other condition quite as important: refuse to be unhappy. The man who sleeps well, keeps himself clean, and feeds well, and then refuses to be unhappy—who makes account with himself that unhappiness is wrong (though exceptions will force themselves upon him), and ought to be thrust out; who believes that he ought to

maintain a trustful, cheerful frame of mind, and does it—if he has had a fairly good body to start with—ought to be able, accidents excepted, to keep it in good, vigorous, working condition up to the end, or nearly to the end.

Telegraphic Pedestrians.

The pedestrian mania broke out with fearful violence last evening in the office of the Western Union Telegraph Company. Several of the leading operators were attacked, and at the present writing their condition is critical. The mania manifests itself in an ungovernable desire to abandon the luxurious comfort of an office-stool and subject themselves to the hardships and privations of a long trip in the country. One very accomplished and reliable operator was attacked last night while taking a message from a Napa lover to his betrothed. The words of adoration came thrilling over the wire—

"DEAREST SOPHIONIA: I will be down on Saturday for a yachting excursion. Can you go?"

The thoughts of the operator were far away on the San Mateo road, however, and when the charming young lady received the tender message, it read:

"DEAREST SOPHIONIA: I will be down on Saturday for a yachting excursion. Can you go as you please—with number elevens well stretched—Weston's best record, 551. Next tournament commences September 20th."

The effect of the note can be imagined, as the young lady's family are strict temperance people, and the evidences of mental aberration would send anyone but an amateur pedestrian to the Home of the Inebriates under strong escort of special policemen. This morning some new cases were reported in the office, and the management begins to entertain serious apprehensions. Mr. Jack Powers was seized with a violent fit at 9 A. M., and walked from the corner of Pine Street to the Palace Hotel and back before exhausted nature succumbed to the fearful exertion and let him down gently on a friendly window-sill. Mr. Berry had a spasm last night and imperiled his constitution by walking from Kearny Street to the Oakland Ferry before watchful friends interfered and saved him. Messrs. Dorgan, Reihle, Donnelly and Leach have not yet manifested violent symptoms of the malady, but their cases are regarded as very serious.

At the mile track, August 11th, five victims of the epidemic, all Western Union telegraph operators, were thoroughly cured by the unflinching process of a twenty-mile heel-and-toe walk. Eleven operators originally entered, but as six preferred to forfeit their fee of \$5 rather than undergo the severe but necessary treatment, the following five made the start at 12 o'clock: E. H. Reese, G. H. Bowker, T. W. Dorgan, C. War and H. S. Bruner. The first mile was finished in 11½ minutes, the walkers passing under the wire in a bunch. On the following mile they spread out considerably, Reese and Bowker leading, and up to the finish of the fourteenth mile plodded around at the average gait of 11½ minutes in the order their names appear above. Dorgan retired after completing fourteen miles, and Bruner declared himself satisfied with the game after making sixteen miles. The other three completed their twenty miles in the following time: Reese, 3 hours 47½ minutes; Bowker, 3 hours 59 minutes; War, 4 hours. The winners were awarded prizes of \$50, \$25, and \$10 respectively. There was quite a large attendance, a number of ladies being present, and the affair was in every respect a credit to the managers.—*San Francisco Chronicle*.

A New Cable Steamer.

A new cable steamer, called the Pouyer-Quertier, built to the order of Siemens Brothers, has just been launched in England. She is a little smaller than the Faraday, but similar in style, and is to be used as repairing ship for the new French cable now being laid. Like the Faraday, the new steamer has twin screws, is fitted with rudder at each end, and has bilge keels of a special kind. There are on board two principal cable tanks, and sundry small supplementary tanks for coiling and stowing the different descriptions of cable. Her whole form and structure are unusually strong; and although bearing the highest class both of the English Lloyd's and the French Veritas, she is even stronger than required by these societies. The vessel is built with a curved

bow, on which will be fitted a projecting girder with a swivel cable sheave, a similar sheave being also fitted at the stern. On deck will be placed very powerful machinery of the latest and most improved description for "laying" and "picking up" cables. Arrangements will also be made for steering the vessel both by steam and by hand, and throughout she will be fitted with a complete system of telegraphs. This is an appliance indispensable for such a ship, as it enables those in charge to handle her in the promptest possible manner—a consideration of such vital importance in cable-laying.

Music and Sermons by Telephone.

When the speaking telephone first came into use, and was a new toy, everybody wanted to hear some one sing, talk and whistle through it. Soon, however, the novelty wore off, and the machine was given over to stern business utility. But latterly, with the aid of a microphone to catch sounds two or three feet distant, some wonderful experiments have been developed, and are worth recording, as a beginning of greater marvels to come. Thus, the nearly obsolete oratorio "Queen Esther," was sung in the opera house in St. Paul last May. A microphone on the stage caught the airs and choruses, and sent them flying to all telephone holders in that city and to Minneapolis, ten miles away, permitting many families to sit cosily at home and enjoy the concert. Last March a telephone concert was given in Indianapolis to an audience in Terre Haute, 75 miles distant. Songs and instrumental music were received by the hearers, and a duet was sung by Mrs. Hester, a matron in the insane asylum two miles from Indianapolis, and Mr. Burgess in the latter city, to the delight of the Terre Hauteans. In the same manner, what is to prevent, at some future day, Miss Kellogg at Boston, and Miss Cary at New York, singing in sweeter harmony than they have sometimes done, for an audience in New Orleans. They need not fear the expense of travel, the summer's heat, or yellow fever. Neither lady could see which received the largest bouquet, or wore the most elaborate toilet, and those causes of jealousy would be nil.

When Dickens read in Chicago a few years ago, so great was the rush that hundreds were unable to hear him for love or money. And so it frequently happens. How easily the telephone exchange could regulate that matter, and save exposure to the weather, carriage hire, tickets, and such other disagreeable matters. Why not have all the music and singing necessary for all churches in the State done from one central station, by wire, as news items are now distributed for the daily papers; and avoid this troublesome choir business! Gray's vibrating telephone could do the organ's part. It might sometimes happen that wires would get crossed over each other, and a Unitarian congregation might receive such a hymn as old "Coronation," intended for some orthodox house of worship! But it could do them no harm, and might be an antidote for the sermon to follow. *Quien sabe!*

And if the music and singing, why might not the preaching be also similarly treated, and sermons be sent over the wires? Of course people will object to such notions as absurd. There are always people who doubt any change from old to new. But the thing has already been done, and in our own State, too, for we read that on Sunday, July 13th, a microphone having been placed in the pulpit of the Union Church, Berlin, Wis., parties about the city had the pleasure of listening to the sermon of the pastor, Rev. R. M. Webster, by telephone. It was intended that Poyssippi, Auroraville, Dartford, and Green Lake should hear it, but the large amount of electricity in the atmosphere so affected the telephone that it was impossible to hear on these lines—from ten to fifteen miles long. The singing of the choir and the organ music was, however, very plainly heard at Poyssippi, thirteen miles distant, and at the stations along the line. The day was hot and showery, and the worst that could have been selected. Prof. Swing is reported to do a large amount of his pastoral visiting by wire, saving

him much valuable time. Many recent cases could be cited of invalids hearing the whole of a church service by the same means, when they would otherwise be deprived of the privilege, and whether we approve of the innovation or not we must acknowledge that the strange possibilities of this new invention, in its application to vocal and musical matters, are well worth studying, knowing, as we already do, that the impossibilities of one generation become the possibilities of the succeeding one.—*Kenosha (Wis.) Parish Record*.

Railroad Plug Factories.

This has become a recognized manner of designing railroad telegraph offices. That there is some reason for it there can be no reasonable doubt, and I think there has been no vindication attempted by any railroad operator, so far as I have seen. In this article I purpose giving some of the reasons why railroad operators turn out so many students, or, rather, plugs.

I claim that they are in a great measure compelled to take students by the "powers that be," and I do not think it can be successfully questioned but that they are partially justified in so doing. The class of railroad offices having the honor of turning out the greatest number of "artists" is the small offices, where one man is freight, ticket, and express agent, baggage master, operator, and general utility man, all combined. To one who knows anything at all of the duties of such an agent, it is apparent that he has his hands full to overflowing, and at times is compelled to have assistance. Who can sell tickets, check baggage, get train orders, and bill express, at one and the same time? I have often attempted such a thing, but never succeeded to any alarming extent, and I consider myself pretty expeditious in getting through with such work. It is true I several times thought I had accomplished the above, but only to find out (after the train had gone) that I had the baggageman's signature to a blank stub in my baggage book; had sold tickets out of order; had forgotten to put on some express packages; or the dispatcher, failing to raise me for that train, would proceed to offer remarks upon my good hearing, when I called him to report the train.

This has been my experience of railroad operating for the past four years, and, from what observations I have made, I have been led to think that it is the experience of hundreds. Had my inclinations been consulted I would never have accepted an agency; but I was a railroad operator, and when a good station was offered me, I had no alternative but to accept. Promotion, when not by favoritism, goes on the principle, "Take what is offered you or take nothing." Take an operator situated as above, and it is plain that he needs help. You all know that the company employing him will not furnish the desired assistance, as long as it can be avoided, so he is practically forced to use his own ingenuity to procure it. Can he afford to hire it? What is his salary? You will find that it ranges from \$40 to \$70. The railroad company pays a certain salary—and in some cases a commission on tickets, in addition—but telegraphing is included in the bill. The express amounts to comparatively nothing, for it is a notorious fact that express companies are the recipients of more charity in the way of gratuitous services than any concern on earth. Well, our operator, after racking his brains for weeks and losing much sleep, in order to hit upon some plan whereby he may obtain the desired assistance with no outlay, is at length made happy by some boy offering his services, in consideration of being instructed in telegraphing and general station business. Here is the situation briefly: I need help—can't afford to pay for it; there is a boy wanting to learn my business—can't afford to pay, either. He offers to pay in work, and I need his help. The upshot of the matter is that both are accommodated—the agent gets his assistant, and in time the boy becomes an artist. Who is to blame?

RUSTICUS.

Eureka, Kan., Aug., 1879.

THE OPERATOR A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY.

W. J. JOHNSTON, - - - Publisher.

September 1st, 1879.

WESTERN UNION stock is quoted at 93½, A. & P. at 34½, and American District at 62½.

THE article on the scarcity of good operators, copied from the Williamsport *Breakfast Table* will be read with interest by readers of THE OPERATOR.

THE cutting of the new company's poles in New Jersey reminds one very forcibly of the frequent breaks in the Direct Cable before its consolidation with the Anglo-American Company.

MR. STEARNS, of Boston, has brought suit in England against two cable companies for using Muirhead's duplex system on their cables. Damages are laid at \$1,000,000. The case is to be decided in November.

GOOD advice on keeping well, by Rev. Henry Ward Beecher, will be found in this issue. Telegraphers ought to give this important subject more attention than they do. We hope all will read and profit by Mr. Beecher's hints.

SOME of the officers of the English navy are hereafter to receive a course of instruction in the practical application of electricity to the art of war. Lessons in the production and management of the electric light was recently given on board the turret ship *Dreadnought*.

THE Comic Card Company, of 166 Pearl Street, Brooklyn, N. Y., advertise in this issue very neat and attractive flirtation cards, which occasion much innocent amusement among young people, and are having an extended sale. The price is only 15 cents a pack, containing 24, each of a different design.

PAUL ROSS, a check-boy in the Memphis Western Union office, reported in our last issue as down with the fever, died August 17th. George V. Graves, train dispatcher of the Memphis and Charleston Railway, also died at Memphis, August 28th, of the same disease.

THIS country has not been exceptional in the matter of damage from lightning during the present summer. In Europe, and especially in England, thunderstorms of great violence have been frequent visitors, doing much damage to property, and in some cases killing numbers of persons.

A CABLE dispatch from England states that a communication received from the Faraday, through the new French cable, now being laid by that steamer, reports that the Faraday has been experiencing heavy weather, and that the new cable was cut during a recent storm. At latest advices the Faraday was grappling for the lost cable.

Cutting Down the New Company's Poles.

Further trouble has been experienced by the new company in Philadelphia and through New Jersey. The American Union, finding obstacles in the way of its erecting its poles through Philadelphia, entered into an arrangement with the Secretary of the Navy to run their wire on poles belonging to the government. The Superintendent of the Western Union, however, telegraphed to the Mayor of Philadelphia, at the time on a visit to Long Branch, and that gentleman, without stopping to inquire whether the American Union had anything to say in its own behalf, immediately ordered the company to suspend operations. At a subsequent hearing before the Mayor, at Philadelphia, President Bates, of the American Union, stated the case for his company, and said that the privilege asked for had already been granted to 635 home lines, 37 New Jersey lines, and 123 private lines. Mayor Stokley decided that the company must ask permission of the Common Council before proceeding, but said that Mr. Bates might bring suit in the courts against him, the Mayor, for damages, resulting from the stopping of the work.

The action of Mayor Stokley in interfering so seriously with the completion of the new company's Philadelphia line, upon the mere complaint of a rival corporation, and without first giving the American Union an opportunity of saying a word in its own behalf, is very severely criticised both in Philadelphia and New York. The conduct of the Western Union in the matter is even more generally condemned. The alleged reason for calling a halt was, that the American Union was violating a city ordinance in erecting their line without, as it was supposed, having obtained permission. At the hearing, however, before the Mayor the Western Union was represented, and did all it could to prevent the American Union from completing its line through Philadelphia, although acknowledging that the matter was one which solely concerned the city, and that the American Union did not in any manner interfere with the lines or property of the Western Union.

It is reported that an official of the Western Union recently stated that although the new company had a considerable number of miles of wire under construction, this would be of no benefit to it, as the company would be unable to get its line through New Jersey. It seems that it will not be the fault of the American Union's enemies if it does. The company's line is nearly completed between this city and Philadelphia. On Tuesday, August 19th, only a small section near Philadelphia was unfinished, and the directors declared, it is said, that within a few days they would give the consolidated Western Union and Atlantic and Pacific Telegraph Companies, in the completion of their line, earnest of their intention to push it through to San Francisco. The line runs at the edge of the turnpike, between Rahway and Linden, N. J., and parallel with and about half a mile from the Pennsylvania Railroad. The wires of the Consolidated Western Union and Atlantic and Pacific Telegraph Companies are at the side of the road, and connect the stations.

At about 12½ o'clock on Wednesday morning, August 20th, Mrs. S. P. Abbott, whose house is in a cluster of the trees at the turnpike and Allen Street, in Linden, was disturbed by a scraping sound. She fancied that it was the watch-dog scratching for

admission at the door. She heard a crash, and then she got up, lighted a lamp, and looked out. The night was so dark that she could not see beyond the trees in front of the house. But she heard a light wagon roll away, and the voices of several men. When daylight came it was seen that the poles of the telegraph line had been sawed off close to the ground, and that the wire that they had supported lay in a tangle on the ground. The ruin extended toward Rahway as far as the eye could see. The contractor for the building of the line through Linden telegraphed to the offices of the company in this city, and an investigation was set on foot. It was found that twenty-eight poles between Linden and Rahway had been sawed off, and that seven more, about a quarter of a mile beyond Mrs. Abbott's house, had been sawed down. It was conjectured that the men who did this were frightened away by Mrs. Abbott's appearance at the window of her house. They went to work again hardly a quarter of a mile further up the turnpike. They left no clue. The American Union Company is using every effort to find and punish the guilty parties, and has printed and distributed all along the route of the line the following poster:

"OFFICE OF THE AMERICAN UNION TELEGRAPH COMPANY,
145 Broadway, New York City, August 22.

"Whereas some person or persons have wilfully injured the line of the American Union Telegraph Company, now being built in the State of New Jersey—14 of its poles being cut down near Bordentown on the night of July 18, 7 poles near Rahway on the night of July 31, and 35 poles between Linden and Rahway on the night of Tuesday, August 19—this will certify that \$1,000 will be paid for information which will lead to the arrest and conviction of any of the parties committing the above named depredations, or any like depredations hereafter; or \$1,000 for information which will lead to the arrest and conviction of any two or more persons for conspiracy to obstruct the building of this company's line, or conspiracy to wilfully injure the same after erection."

The American Rapid Company.

The American Rapid Company's line between Boston and New York is making good progress. It is expected that the company will open for business, with twenty offices in circuit, about the first of October. On the completion of the New York and Boston line the wires will be at once extended to Washington, and it is expected that offices will be opened in the latter city about the first of January, so that the new system may be practically tested during the session of Congress the coming winter. As it will be impossible to get enough instruments ready in time, these will be the only lines built this season. Next year, however, as all the instruments required can then be procured, it is the intention of the company to construct an additional two thousand miles of line, and it is believed that by that time the new system will have thoroughly proved to the public what it is capable of accomplishing. The rates are to be twenty-five cents for a thirty-word day message, and the same price for a fifty-word night message. The gentlemen connected with the "Rapid" company are men of wealth, and all its stock has been subscribed for, and so placed that it will be impossible for the company to be bought, leased or consolidated by or with any other telegraph company. The company has now a school of instruction open in this city, and another in Boston, where young men

and women are initiated into the mysteries of mechanical telegraphy free of charge. The managers, chief operators, etc., needed by the new company, however, are, we are assured, to be drawn from the employes of the Western Union and other telegraph companies, several men being now "marked," to whom at the proper time such positions will be tendered at liberal salaries. It is said that the Western Union failed to purchase the system now owned by the "Rapid" Company through an effort made by Mr. Vanderbilt's representative to drive a Jew bargain, by compelling the patentees to accept two thousand dollars less than the price they wanted, and less, it is said, than Mr. Orton would have given them had he lived. It is also said that the patentees were so well pleased with the working of the system during the test, that they were very glad to have this excuse for breaking off negotiations with the Western Union, and that they are very sanguine of the future of mechanical telegraphy in this country.

The Action of the American Union Sustained.

The American Union has secured an important victory over the Western Union in the suit brought against it by the New York City and Northern Railroad Company, Judge Barnard, at Poughkeepsie, August 16th, rendering a decision sustaining the rights and privileges claimed by the American Union Company.

The plaintiff's line of railroad extends from Harlem, through Westchester and Putnam Counties, to Carmel. The telegraph company, under the State law, began the construction of a telegraph line over the lands of the railroad company. The latter, on July 17th, obtained from Judge Dykman a preliminary injunction restraining the telegraph company from further operations until the matter could be heard and determined by the court. On July 21 the respective parties appeared before Judge Barnard. The counsel for the railroad company argued that the consent of the railroad company had never been obtained by the telegraph company to operate the line, and that the line was constructed against their protests. The answer was that the line was being constructed under the statutes of the State, which give the telegraph companies the right to appropriate any lands, and that they intended to make full and just compensation for the lands taken. The point involved was the right of telegraph companies to condemn right of way under the State law. Judge Barnard's decision dissolves the injunction obtained from Judge Dykman, and sustains the action of the telegraph company.

The International Telegraph Conference, which had been in session in London for about a month, closed its labors July 28, and adjourned to meet at Berlin in 1884. The conference was composed of representatives of the different European governments and telegraph cable companies, and its object was the discussion and adjustment of all questions relating to international telegraphy—such as, the rates to be charged between the several countries represented, the rules to be observed in relation to telegraphic business between the different countries, and the like. Some reductions of tariff and other changes have been made, which it is thought will be for the benefit of both the patrons and the several governments and cable

companies. The conclusions arrived at will not be, however, acted upon, until April, 1880. The members of the conference have combined recreation with business, and visited on invitation during their stay many objects of interest in England and Scotland. They were entertained at a banquet by the Lord Provost, magistrates, and town council of Edinburgh, July 26, and received a similar courtesy at the hands of the President of the Manchester Chamber of Commerce, July 22.

THE reaction seems to have set in. Hitherto the Western Union had the matter of salaries practically in its own hands, and, it is unnecessary to add, seemed to fully appreciate the fact. Now, however, it looks as if the tables were being rapidly turned. The opposition companies having taken over some of the old monopoly's best talent, that company suddenly wakes up to find fewer first-class men in its employ than it supposed, and even of these many threaten to desert it. The American Union manager of a neighboring city informs us that a Western Union operator whom he tried to negotiate with, and who had a "split-trick" and small salary, was at once put on day work at an increase of ten dollars a month, rather than have him go over to the opposition. From other cities we hear of several increases among operators, and we hope that all who deserve it—and their number is legion—will now be able to either obtain a position with the enterprising American Union, or an increase of salary from their present employers. At the same time we hope few will be so foolish as to give up their present situations unless they are reasonably in of a better one some place else.

THE American Union has temporarily stopped work on its Philadelphia line, owing to the legal proceedings there; but the matter is being adjusted as speedily as possible, when operations will be again resumed with increased vigor. The Boston lines will be completed within two weeks, and several others are already completed or in process of completion. It is expected that the company will be able to open for business by the first of October, with offices in all the principal cities east of Chicago. The line will then be immediately pushed on to Omaha and the Pacific coast.

THE sketch in this issue signed "Nyl," is an actual occurrence, and shows how easily a person may be persuaded that he is sick when in reality there is nothing the matter. It will recall the story of the professor and the students. When one feels slightly out of sorts he should do something to thoroughly occupy his mind, and in this way may soon forget the slight indisposition; but if he sits brooding over it, the chances are all in favor of his allowing his imagination to worry him into real sickness.

A CALIFORNIA correspondent offers in this issue some timely and practical suggestions to the American Union, which we hope the officers of that company will look into. Doubtless they have given the important subject of Pacific Coast connection due attention, but the hints of our correspondent may not be without interest to them.

THE article on telephonic music, in this issue, copied from the *Kenosha Pariah*, is from the pen of Mr. Edward Curry, assistant secretary of the Northwestern Telegraph Company.

Themes for the Thoughtful.

Hatred is like fire—it makes even light rubbish deadly.

When people's feelings have got a deadly wound, they can't be cured by favors.

What is done without passion, is generally done coldly; what is done from passion alone, you may have reason to repent of.

People are apt to fall in love with those who are beautiful, at sight; but to retain love, one must have truth, tenderness and constancy.

An angry man who suppresses his passions, thinks worse than he speaks; and an angry man that will chide, speaks worse than he thinks.

What is vehemence good for? It can neither recommend, or be recommended; neither obtain an impartial hearing, or an impartial arbitration.

Some persons go through life as a band of music moves down the street—flinging out pleasure on every side through the air, to every one, far and near, that cares to listen.

If all were as willing to be pleasant and as anxious to please in their own homes as they are in the company of their neighbors, they would have the happiest homes in the world.

Times of the greatest calamity and confusion have ever been productive of the greatest minds. The purest ore comes from the hottest furnace; the brightest flash from the darkest cloud.

Our eyesight is the most exquisite of our senses, yet it does not serve us to discern wisdom. If it did, what a glow of love would she kindle within us, and how our lives would be beautified.

Life being short, and the quiet hours of it few, we ought to waste none of them in reading valueless books; and valuable books should, in a civilized country, be within the reach of every one.

Good words do more than hard speeches; as the sunbeams, without any noise, will make the traveler cast off his cloak, which all the blustering winds could not do, but only make him draw it closer to him.

Flowers should deck the brow of the youthful bride, for they are in themselves a lovely type of marriage. They should twine around the tomb, for their perpetually renewed beauty is a symbol of the resurrection.

The industrious bee does not stop to complain that there are so many poisonous flowers and thorny branches in the road, but buzzes on, selecting the honey where she can find it, and passing by the place where it is not.

"Do not delude yourself with the idea that you can please everybody. Always do that which is right; be diligent; do the most you can; pay no regard to the fault-finders, and you will find as many friends as any sensible man need desire."

Economy is the parent of integrity, of liberty, and of ease; and the beauteous sister of temperance, of cheerfulness, and health; and profuseness is a cruel and crafty demon, that gradually involves her followers in dependence and debts; that is, fetters them with "irons that enter into their souls."

"Two gifts are offered to men in this world; they seldom can have both. One is success, with weariness; the other, failure, with hope. The last is much the best. The man who succeeds finds that his success does not amount to a great deal. The man who fails, but keeps his hope, is the happy man."

The more a man has in himself, the less he needs of others, and the less they can teach him. The supremacy of intelligence leads to unsociableness. Ay, could the quality of society be compensated by quantity, it might be worth while to live in the world. Unfortunately we find, on the contrary, a hundred fools in the crowd to one man of understanding! The brainless, on the other hand, will seek companionship and pastime at any price. For, in solitude, when all of us are thrown upon our own resources, what he has in himself will be made manifest. Then sighs the empty-pated, in his purple and fine linen, under the burden of his wretched Ego, while the man rich in mental endowments fills and animates the dreariest solitude with his own thoughts. Accordingly we find that every one is sociable, and craves society in proportion as he is intellectually poor and ordinary. For we have hardly a choice in the social world between solitude and commonplaceness.

How Edison Fired at a Stuffed Animal.

At Separation I found the people yet laughing over Tom Edison's hunting exploit when he was here with the scientific party last year. It is well known that Clark, the Union Pacific agent at Separation, is a skillful taxidermist, and has a fine collection of stuffed animals and birds constantly on hand. When Professor Edison, with a few friends, visited that station on a hunting trip, they repaired to the depot to arrange their arms, etc., before seeking for game in the sage brush wilds. Edison several times expressed a desire to kill some jackrabbits, and Clark, who is ever perpetrating some practical joke, took from his collection a most beautiful specimen of a jack, mounted in a sitting posture, and looking as natural as life. At the first favorable opportunity he set the stuffed animal up in a sage bush, immediately in front of the depot, where he could be plainly seen from the platform. Edison strolled listlessly about for a few moments, when all at once he was observed to start, crook his neck and gaze toward the rabbit, and then with the ejaculation: "Well, by hokey!" he rushed into the office for his Winchester rifle. Clark had by this time posted the other members of the party, and they were all on the alert for some huge sport. While the professor was rushing around, getting his ammunition, etc., one of the party asked:

"What's up, Tom?"

"Now, you fellows just keep still, or you'll scare it! There's a jack rabbit out here about half as big as an antelope, and I'm going to bore him right in the eye."

With a stealthy, half-crawling, movement, he slid out on the platform, laid flat down, took a long and deliberate aim, and fired. The ball plowed into the earth, about half way between him and his game, while the long-eared animal sat apparently contemplating some object on a distant hill.

"The man that sighted this gun ought to be cut into six-inch sections with a dull buzz-saw," muttered the professor, as he threw in another cartridge. "It shoots much too low, but I've got the range now, and I'll catch him this time."

He aimed and fired, and the ball went playfully cavorting over the sage brush, six feet above the rabbit's ears. Tom looked around, and whispered:

"What in the deuce are you fellows laughing at? Do you want to scare my game away before I get the range of this blamed botch of a gun? You all know it's a new one, and won't shoot accurately until sighted!"

He tinkered at the sights a moment, muttered: "Guess I'll fetch him now," and after an unusually long aim fired. A mule that was picketed out twenty yards to one side, elevated his tail, kicked at some imaginary object, and lit out for the hills with a bray of pain. By this time Edison began to get wild. We don't like to let it be supposed that he is a profane man, but every sentence that came from his lips shot out like forked lightning. He blessed his comrades for laughing at him; spoke in the most tender terms of "that——rabbit," and wound up with a benediction upon the heads of the Winchester Rifle Company that sounded like a Latin stump speech. The rabbit caught his eye again, however, and his desire to kill it predominating over all else, he shot another cartridge into the gun with force enough to almost drive it through the barrel. This time he cautiously stole into the depot, picked up a chair, tip-toed out again, and using the chair for a rest for his rifle, blazed away. The rabbit never moved, and Tom became actually wild. He slung the gun at the rabbit and then jumped off the platform, and began to advance upon it, throwing rocks, and communing with himself as he went.

If the animal could have heard the epithets which were applied to it by the excited inventor, it would have sought the most desolate place to be found in that region, and sat down and hated itself to death. Nearer and nearer drew the professor, and thicker and thicker flew the stream of rocks until one of them happened to hit the animal and it rolled over, disclosing the board upon which it was mounted. Tom gazed a moment in speech-

less astonishment, and when a roar of laughter came from the depot he sneaked off behind the water-tank, out of sight. When his friends approached him half an hour later they found him figuring and sketching furiously on the side of the tank. When asked what new idea he was engaged upon now for the advancement of science, he roared: "Science, and doubly-scientific men. I'm figuring on an electric kicker, which can be secretly applied to the coat-tails of practical jokers, to kick the supreme stuffin' out of them every time they attempt to execute one of their fiendish jokes. How soon will that Rawlin's train be along?"

BOHEMIAN WANDERER, *In Rawlin's Wyo. Journal.*

Another Stride Onward.

A project is on foot to start an electrical society among the men in the delivery offices, on the New York city line. The fact (which has been mentioned in these columns before) of each man having to work pretty lively all day, and two nights a week until nine P. M., has suggested to them the advisability of making those two nights of torture contribute to their scientific enlightenment, and thereby enable them to fill the advanced and important positions that are now awaiting them. A great deal of enthusiasm is manifested in anticipation of the time when each one of these aspiring scientists will be called upon to fill the high and responsible places of trust and advancement that are being prepared for them. The important positions of trust and emolument cannot be held up to their admiring gaze too often, and the writer would be guilty of criminal negligence if he failed in his duty in this respect.

The plan is this: The members who are off duty early will assemble on alternate nights at the office where such a member is at work. According to the constitution the member so engaged is to be the lecturer of the evening. His first act will be to mount a temporary platform prepared for the occasion. The chair he just vacated will be occupied in turns of fifteen minutes by every member present. A tax of two cents is to be collected every meeting night to purchase an electrical library and apparatus for illustrations. The lecturer will be expected to give a glowing account at every meeting of the future of the electric telegraph, and show clearly the necessity, as well as point out, the way to a thorough knowledge of electrical matters, so that the members can make themselves competent to accept the higher and more responsible situations that are being prepared for them. The instructor will be held to a strict accountability for the proper performance of the duties entrusted him. It is confidently expected that in a short time after the establishing of this society there will be plenty of capable men to fill the high and responsible positions, etc. These men are deadly in earnest and are determined to properly qualify themselves, so that they will be enabled to accept the more elevated posts of trust and honor, and, in fact, fill the very highest, etc. It is needless to add that they have been spurred on to this course by the assurances, given from time to time, that such men can readily command the highest positions of trust, and—and—and—so forth. May success crown the efforts of these courageous artists who are anxious to fill * * * *

On Wednesday evening, August 6th, Mr. I. K. Dixon, agent and operator of the Charlotte and Atlanta Air Line Railway at Kings Mountain, N. C., had a most extraordinary occurrence to come under his observation. Returning from tea to his sanctum, he was proceeding into an adjoining room to procure a match, after having stuck his plug in. Hardly had he reached the door when a brilliant flash of the electric fluid rushed through his instruments, communicating itself with the wick of his lamp, down the chimney, igniting it brilliantly. Turning in wonderment, he beheld his lamp shedding its bright rays upon him, touched by that mysterious element that wields such a mighty influence in the affairs of man.

Progress of the American Union.

The new telegraph of the American Union Company has reached Colchester, and will be in this city the first of next week, the force engaged in the work being sufficient to put up some three or four miles a day. The office here, however, will not be opened until about the first of October, when the circuit between Montreal and New York will be completed. On the north, the wires now reach from Montreal to Colchester, and on the south, from New York to Glens Falls, and the 'missing link' will be completed in a few weeks. From this city the wires (two in number—one for local and one for through business) will run through Vergennes, Middlebury, Rutland, and intermediate points, and thence to Saratoga; and the competition thus established with the Western Union cannot fail to benefit our business people and the public at large. The work of erecting the American Union wires is in charge of Mr. Charles R. Hosmer, who, although still a young man, has had a long experience in all branches of telegraphy, and who, besides being a most competent superintendent, is a genial and popular gentleman. Under his competent supervision the wires are being erected in a thorough and excellent manner, as we are informed by old and experienced telegraphers, and everything about the line shows an abundance of capital and of practical skill.—Burlington, Vt., *Free Press.*

Curious Freaks of Lightning.

During a recent thunderstorm at Vernon, Conn., while a Mr. Henry Olcott was attempting to close a window, a flash of lightning struck the window and destroyed the sash, glass, blinds and casings, smashed the entire window, and knocked Mr. Olcott senseless. The effects upon the house were seen in every room, from garret to cellar. One great hole through the outer wall into the pantry shows where a bolt came that flung all the dishes inward upon the floor.

The daughter of a Mrs. Fuller, at same place, had but just moved her invalid mother, from a seat near the cooking stove to another room when the bolt descended. She says a ball of fire rolled across the room, under the stove, throwing a chair upon the table, and mixing things up promiscuously. The bolt passed through the floor, into the cellar, tearing out a sleeper, and came out of the ground again at a point about ten feet from the building, in the barn path, leaving a hole in the ground the whole length large enough for a rat to run in. The bolt that entered the pantry completely wrecked the room. It was on the opposite side of the house. The clapboards were torn off, and a hole almost large enough for a person to crawl through was torn through the walls.

The American Union in Providence.

The American Union Telegraph Company will open an office in this city October 1st, probably on Weybosset Street. The new company has magnificent wire reaching every prominent city in the country. The building is rapidly progressing under the direction of W. H. Fairbank, who built the United States Telegraph through this city 19 years ago. J. W. Lawton has a gang of 30 men at work on Orms Street now, and there are two gangs working between Manton and Hartford. All the offices will open simultaneously and ready for business. Mr. C. J. Sheehan, who has been the manager of the A. and P. Company in this city for so many years, will be manager of the new company. Mr. Sheehan has a host of friends who will be glad to see him in his new position. He brings the best of qualities to his work, and is always most courteous and obliging to his patrons. We welcome the new company under Mr. Sheehan's management.—*Providence Sunday Dispatch.*

A man who never makes a mistake, who never is at fault in any way, has the right to condemn, if he wishes to exercise the right: but this kind of conduct comes with a bad grace from those who are equally liable to error; and who is he that is entirely free from this liability?

U. S. Signal Coast Line.

It may be of interest to some of your readers to know a little in regard to this wire. No doubt, many of them have never so much as heard of its existence.

The United States Signal Wire, or the Coast Line, as it is more familiarly called, which passes through this place, extends from Sandy Hook, N. J., to Wilmington, N. C., running along the ocean most of the way. The operators are all regularly enlisted soldiers, and any misdemeanor on their part is punishable by arrest and confinement in Fort Whipple. They are subject to transfer upon very short notice, and are never certain of remaining in one place over six months at a time. Maxwell, late of Atlantic City, was recently ordered to Bismarck, Dak., and several others are on the eve of departure for points equally as remote. Most of the operators in the service are men of more than ordinary requirements, very gentlemanly, and quite fair telegraphers. The wire usually works badly, but since the late severe "blow" it is completely demoralized. The Government propose rebuilding it, I am told, and to this end Lieut. Birkhimer, of the Chief Signal Office at Washington, is now making an inspection of the entire length of the line. "So" office, Washington, is in charge of Sergt. Robinson, a strict disciplinarian, but kind and obliging withal. He is assisted by Privates Thurston, Spedden, Pierson, Field, and the brothers Ash. Baltimore office is managed by Sergt. Black, with Privates Murphy, Pritchard, Cole, and Terrett as assistants. At Philadelphia, we have Private Bellew, who is about to depart to Fort Yuma, Arizona. Cape May office is run by Sergt. Williams and Private Botton. Atlantic City is next in line. Here we find Sergt. McGann, an "old-timer" in the service. Few men understand their duty better than he. Privates Sprigg and Chaffee lend him their valuable assistance. At Little Egg Harbor Inlet Private Fox dispenses lightning in a manner that strikes terror to the heart of neighboring "plugs." Fox is a jolly boy, and a general favorite on the wire. Beach Haven (the only Western Union office on the wire) is managed by a young theologian from Burlington College, who is spending his vacation there. Barnegat Inlet, one of the most important stations on the line, is ably managed by Private Marx, a Baltimorean by birth and a gentleman by nature; the service cannot boast of a more thorough electrician. Private Burrows, his assistant, a Georgetown boy, is universally liked. His unchanging good humor has won him many warm friends. Burrows is never so happy as when riding behind a span of Government mules on the lookout for grounds, escapes, and the like. Sandy Hook, the end of the line, is in charge of Sergt. Stein, whose willingness to oblige and urbanity are proverbial. As an observer and meteorologist, Stein is without a peer. Private Woodward aids in the arduous duties of this office. I could write at greater length in connection with this subject, but time and space forbid. For the present the matter must rest here. More anon. Yours fraternally,
BEACH HAVEN, N. J. UBIQUE.

September Magazines.

Among the contents of the *Popular Science Monthly* for September are the following papers: "Spiritualism as a Scientific Question," by Prof. Wilhelm Wundt; "Geographical Evolution," II., by Prof. Archibald Geikie, F. R. S.; "Serpent-Charms," "Novelty in Patents," "Development of the House Fly," by M. H. Robson (illustrated); "Food and Feeding," "The Birth, Life, and Death of a Storm," by Robert H. Scott, M. A., F. R. S.; "Biographical Notice of George F. Baker," with portrait. In addition to these are able editorials on spiritualism and social science, as well as the popular miscellany and notes for which the *Monthly* is so well known. This magazine is one of the best instructors published, and contains each issue something of interest to telegraphers. The subscription price is \$5 a year, and the publishers, Messrs. Appleton & Co., 549 and 551 Broadway, N. Y.

THE September *Scribner* has several attractive illustrated papers, viz: "The University of Rome," by Prof. Boyesen; "The Art Schools of Philadelphia," by W. C. Brownell; "Signs and Symbols," by Frank B. Mayer; "An American Home on the Amazon," by Herbert H. Smith; "Sandy Hook," by George Houghton, with picturesque drawings by F. S. Church; and Mrs. Burnett's "Haworth's," which will be concluded in the next number. Prof. T. R. Lounsbury discusses "English Spelling Re-

form," and Kate Field contributes a sketch of W. S. Gilbert, of "Pinafore" fame, which is accompanied by a portrait. The fiction comprises "A Story of the Dry Season," by Mrs. Mary Hallock Foote; the second installment of Henry James' "Confidence," Mrs. Burnett's serial; and "Documents in the Case," by J. B. Matthews and H. C. Bunner, which possesses the novel feature of a plot narrated exclusively by a series of documents, exhibiting much cleverness in realistic rendering of widely different styles of writing. There are more than half a dozen poetical contributions. Dr. Holland, in "Topics of the Time," discusses "European Travel," "Newspapers," and "Write It Yourself." The other departments are full of sensible, interesting, and amusing reading, "Bric-a-Brac" containing some clever repartees and other material.

Monstrous Delay.

Western Union Telegraph Office, 8 o'clock in the morning. Operator received the following: "Christ (abbreviation for Christian) died at eleven o'clock last night."

Rushes to the manager: "What shall we do about this, Mr. Langhourn?"

"About what?"
(Reads the dispatch.) "Why, that infernal idiot at the New York office has been holding this for nearly 1,900 years!"—*Indianapolis News*.

An Encouraging Sign of the Electric Light.

Such of our readers as are interested in the electric light will be glad to know that the London Metropolitan Board of Works has decided to continue this mode of lighting on the Thames embankment for six months longer, and to place Jablochhoff lamps along the Waterloo bridge, and up Northumberland Avenue to Trafalgar Square. This decision of the Board of Works, which is regarded as a hopeful sign for the future of electric lighting, is said to be mainly due, first, to a substitution of frosted globes instead of the opaline globes heretofore used, thereby greatly increasing the beauty and efficiency of the lamps, and raising the luminous power of each from 155 candles to 265, a gain of seventy per cent; and, secondly, to the fact that a 20-horse-power engine is capable of sustaining as many as sixty Jablochhoff candles ablaze, instead of forty, as at present. The relative cost of gas and electric lighting shows gas to be actually the dearer. A gas light equivalent to 230 candles costs six cents an hour, while an electric light of 265 candles only costs the same, and if the experiment of electric lighting were carried out on a large scale, the light could be supplied much cheaper. It is very evident from this that the success of the electric light is now a mere question of time. The subject is still engaging the attention of Mr. Edison, and his friends have every faith that he will yet overcome every remaining obstacle, and give to the world this wonderful illuminator at a price that will insure its adoption in place of gas, both for street lighting, factories, and household purposes.

It has several times been suggested that the telephone might be used to advantage in mines. The first experiment in that direction has just been made at Leadville, Col. An Edison telephone has been put in operation in the carbonate mine at that place, and so far is reported to work well. The mine will hereafter be worked by orders transmitted through the telephone, by which means much time will be saved. It is also thought that the Edison electric light will be utilized in the Leadville mines, as this course would insure a considerable saving of money.

Dashes Here and There.

The reason why a good many of the men don't become enthusiastic over the study of electrical matters, is because they have discovered that they have mistaken their vocation; and they would gladly abandon the business if they only could.

It was either the effect of a \$10 increase for our "sisters, cousins and aunts," or, of his reaching the office before 9 A. M. He put it down Tom P. Kins, Gage & Co., to the disgust of the senior member of that firm. Of course "that was the way it came."

"Working a wire" is one of the very best methods of showing what a man's real character is. The true gentleman at heart will endeavor to smooth over and make light all the necessary irritations, and annoyances incidental to the same, while they in whom the animal nature predominates, will, in a very short time, be apt to make that fact known.

DISCRETION.—Irish landlord (to his new secretary)—"Doyle, d'ye hear! I want you to send a telegram—at once, moind—to O'Brien, ordering him to quit the farm." Doyle (after a moment's reflection)—"Sor, might I ask your honor to write out the telegram? (Shure, if I wrote it myself that owid O'Brien would know mi handwriting, and I'd be shot dead as blazes, sor.)—*Fun*.

Probably the first instance of stopping a runaway by a telephone occurred in New Haven a day or two ago. A pair of horses started from some place up town and tore down State street, evidently headed for their owner's packing-house on Long wharf. The driver, who was off his wagon on business, ran into a store near by and telephoned to Long wharf to look out for the runaways. When the horses reached the wharf, a cordon of men were stretched across the street to prevent the animals from going down to the water, and the result was that the horses were turned into the packing-house yard, where it was found they had sustained no injury.

The value of aluminium in telegraph has for some time been well known, and has lately attracted special attention. This metal possesses double the conducting power of iron, and can be formed into extremely thin wires for various purposes; but the high price, and the difficulty of its production on a sufficiently large scale, have hitherto proved obstacles in the way of its employment. According, however, to a recent statement in the *Allgemeine Polytechnische Zeitung*, aluminium can be produced in considerable quantities, and at a comparatively small cost, by reducing it from the cryolite of Greenland in smelting works by means of silicious iron or zinc ore. With iron aluminium forms an alloy capable of being made into wire which is eminently suitable for telegraphic purposes; as, in consequence of its higher conducting power, thinner wires could be employed than the iron wires in present use. Owing to its light weight (which would be an additional point in its favor for general purposes), such wire would be specially adapted for use in military telegraphy, since great lengths of the compound can wire be carried on one bobbin.—*Universal Engineer*.

Echoes from 197 and City Items.

Mr. Andy Nelson of 66 Gold Street, is the successor of Mr. Hills at Washington Market.

A. J. Burton, late manager of 575 Broadway office, and who has spent the greater part of his telegraphic life in that neighborhood, has been transferred to Brooklyn, to take charge of the offices in that city.

The opposition company seems to be acting under the belief that their *overpositions* to all the very best men, and are losing no time in filling them. The author of the above expects to be rewarded with the position of superintendent, at the very least.

Robert W. Martin has been given a permanent situation on the night force. In acknowledging his appointment to Manager Downer, he says: "Many thanks! I hope my services have been, and will continue to be, as satisfactory to you as my duties have been pleasant to me."

Mr. Charles H. Patch, who has been employed in 197 Broadway for the past three years and a half, has resigned his position and left for his home in Iowa. Mr. Patch has been suffering from rheumatism for a number of years, and has been forced to this action to obtain rest and recuperate. Charley's many friends will heartily indorse our wish for his speedy recovery.

John Lenhart has obtained a situation in the W. U. main office. The conditions imposed upon John are that he will mind his own business and no enter into discussions with the other employees.

August 26 being a rainy day there were twenty-four lady operators absent out of a total of ninety employed on the day force. Rumor has it that the metropolitan superintendent notified the manager that the Western Union Company was prepared to dispense with the services of their "fair weather" operators.

M. B. Hills, late manager of the Washington Market office, has been sent to take charge of 575 Broadway office. Heretofore he was in Assistant Superintendent Redding's division of the city, and as that gentleman claims (and his claim is universally admitted) to have the very best talent in the country. Clustered around him, it is, perhaps, not surprising that Superintendent Brown could not find any one in the other part of the city, either competent or deserving of promotion to the above position.

The ladies who, in their anxiety to be considered up with the times, stoop to the use of slang, make a most deplorable mistake. To hear them utter the now familiar "way off" with an ease that denotes constant repetition, produces a feeling of disgust in those who make the slightest claim to refinement of feeling. It is bad enough for a man to come to this, but there is no excuse whatever for one who pretends to be a lady; besides, the simple fact of using such language indicates either a lack of words to express their thoughts, or a lack of thoughts to be expressed. In any case there is nothing at all "smart" in it. The greatest charm a lady can possess is a becoming modesty, and there are cases (it is to be regretted) where this estimable quality might be cultivated to advantage.

A correspondent in this city says: In large relaying offices it is probably advisable, if not absolutely necessary, to mark the time on each message as it is received. This is, and has been, the custom for years, and the advantages derivable therefrom, will be readily recognized and admitted. Every operator with ordinary ability is supposed to be able to dot this down without any inconvenience, no matter how fast the sender may be moving along. This is the supposition, but as a matter of fact, it becomes a labor of considerable extent, when the work is rapid and long sustained. In delivery offices, however, the system could easily be abolished, without in any way being detrimental to the service. Few people seem to care what time their messages are received, while some do not even know what the figures denoting the same are meant for. What they do want are the contents, and if the time is desired, it can readily be furnished from the delivery sheet. Every movement toward lessening the strain on the mental faculties, and dispensing with unnecessary toil, is worthy of consideration. While the above facts are true of the full rate business, it must be admitted that there are no such reasons to be advanced in favor of putting the time on half rate messages. It is altogether superfluous. What difference does it make whether a red is received at 9, 10, 11, or 12 P. M., or at any other hour? It is simply a useless tax on a man's powers, and the sooner it is dispensed with the better. Henceforth it ought to be "a custom more honored in the breach than the observance."

PERSONALS.

Mr. C. A. Willis has resigned his position at Detroit, and is working at Toledo.

DAVIDSON.—August 7, to J. J. Davidson, manager Western Union office, Grand Bay, Ala., a boy.

Over these and many others of greater or less distinction presides the whole-souled and effable H. W. Wynkoop, superintendent telegraph, Crestline. I. N. EARLY.

The Edison telephone is in successful operation at Pittsfield, Mass., and has an undisputed possession of the field. It is ably managed by Fred Robinson, who has also been the W. U. manager for the last seven years.

E. H. Lucas has been added to the Kansas City Western Union force. W. H. Woodring, chief operator is east on a vacation. W. J. Maguire fills the vacancy, and James Gillespie is acting chief. J. L. Horne from St. Louis has relieved J. D. Cameron.

Miss A. Little, manager of the Watsonville, Cal. office, was married August 11th to Mr. Allen W. Stuart, of San Francisco. Mrs. Stuart has resigned her

telegraphic position, and will hereafter devote her time to domestic affairs. She and her husband have the best wishes of the Pacific coast telegraphers for a long and happy wedded life.

The Bell Telephone Company has commenced operations in Pittsburgh, Pa., with a list of about fifty subscribers, and with an expectancy of 600. Mr. J. D. Haines, who has been appointed superintendent, has of late held the same position with the Edison telephone people, and it is understood has largely contributed to the success of that organization in that city.

John Bond, Jr., confidential clerk to Supt. Lewis of New Jersey Midland Railway, died at Catskill, on Friday, August 8th, of consumption, and his remains were taken to Ellenville, N. Y., by special train over the Midland, Sunday. Mr. Bond was an ex-operator, a young gentleman of excellent qualities, and was highly thought of by the officers of the railroad.—*Hucksack Republican*.

A correspondent on the New Jersey Midland Railway writes:—"The stations on this road are being rapidly filled up with farmer's sons as fast as vacancies occur, they being glad to work for \$30 to \$35 a month so long as they can wear a white shirt. The whole evil lies with the operators who learn them, one after the other. It is a pity that they could not wake up to a sense of their own interests."

There is a young man living at Rochester, N. Y., who was evidently intended by nature for a telegraph operator. He has a peculiar faculty for distinguishing close sounds, and is thereby enabled to perform some wonderful feats. For instance, it is stated that he is able to give the numbers of between 250 and 400 locomotives (about one-half of the total number) that run upon the Central Railroad, simply by the sound of the bells. This faculty has been tested hundreds of times and has rarely proven a failure.

On the first of August Crosby J. Ryan started a branch office for the Western Union at the foot of Woodward Avenue, Detroit. As before stated in these columns, Mr. Ryan has almost completely lost the use of his eyes. He is, therefore, compelled to have a boy to attend the counter, wait upon customers and read the messages to him while he sends. In this way they get along admirably, but the office, not being sufficiently well established, only paid about ten cents a day over expenses for the first three weeks. It is hoped that it will do better next month.

DETROIT, LANSING & N. R. R.—Since you last heard from here there have been but few changes. One pleasant event was the marriage of Miss Lydia Jayne, the pleasant little operator at Portland, to Frank Burgess, of Folkestone, Penn., which caused a vacancy on our string. Mrs. Burgess goes to her husband's home in Pennsylvania, and J. R. Dixon, of Dixon, Ill., takes the chair at "Nl." Jolly Dave Shaver, who has been shuffling around McBride's, now graces the new office at Meridian. Lincoln, at "Na," has been "shaking" last week or two, and being relieved by Mr. Hudson, D. and M. owl at Ionia. XA.

A correspondent of the *Springfield Republican* tells how ex-Governor E. D. Morgan, a prominent stockholder and director of the Western Union, got a start in business. It seems that while a clerk for his uncle, Nathan Morgan, a wholesale grocer in Hartford, he was sent to buy corn. On his return he showed his uncle samples of the corn he had bought, and said that as the price was comparatively small he had bought "three cargoes." In those days that was considered a very large quantity of grain, and Uncle Nathan in despair declared that he was ruined. "Very well," said young Morgan, after listening awhile to the lamentations, "you needn't father the transaction if you don't want to, for I have already sold two cargoes of it at a handsome profit." The storm cleared off then, and the uncle became all rainbow and sunshine. The next morning young E. D. Morgan, the clerk, was called into the counting-room and informed that the man who could engineer such operations successfully ought not to occupy a subordinate position, and that thereafter he should have an interest in the business as a partner.

BOSTON.—Nothing has been seen here of the American Union Telegraph Company as yet, not even a superintendent. Nevertheless, in electrical circles, a feverish expectancy is observed, at least so far as is perfectly proper in a city as cultured as the modern Athens. An enterprising Western Union man has even been known to say that his soul was his own; and further, to express curiosity as to who would be the chosen one for manager of the Boston

office. Telephone matters continue about the same as usual. The man who up to this time has profited most from the invention of the telephone is Charles Williams, Jr., manufacturer of telegraph instruments, 109 Court Street. From a third or fourth-rate shop inside of a year has developed a first class factory in every sense of the word. From one floor he has extended to three, fully occupied, and every man and boy he employs is working on telephones and their attendant apparatus. S. H. Bates, formerly Superintendent of the Boston Automatic Signal Telegraph Company, is at present employed by the American Speaking Telephone Company at their Boston office.

P. Ft. W. & CHICAGO R. R.—H. D. Boyd is an invalid operator. He has the quad run to his residence connecting with the P. Ft. W. & C. (W. U.) C. S. & C., (A. & P.) offices and other minor places, and is happy. Clint Walton of Fort Wayne, resigned his commission as day train dispatcher a short time since, and accepted that of master of transportation, for division D. and E. of the above mentioned road. Clint has the congratulations of the fraternity. Fred Converse has been conducted to the honorary position of train dispatcher in that office, and wins friends wherever he goes. Another old timer on the P. F. W. & C., is Mat Fulton of Bucyrus. He signs "F," and by his firm and steady manipulation of the key, can be distinguished from any other operator on the road. Frank Blair works extra at Crestline, and is an exceptionally fine young man. He is one of Crestline's oldest operators, and has a host of friends. Ike Deilenderer, Dunkirk, is from the Western country, and can wait double-greased lightning with any of them. He serves in the double capacity of agent and operator. But the fellow given the sobriquet of "old man," by his superintendent, is a No. 1 in every particular. His name is Moore, he does the management of Lima city office with grace and ease.

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Aug. 11th, to Jay Martin, operator general office, N. J. M. Ry., a son.

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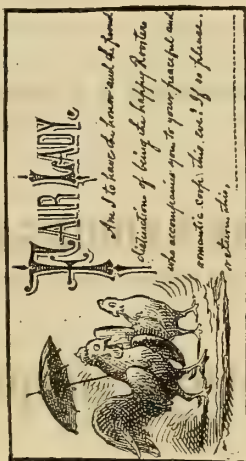
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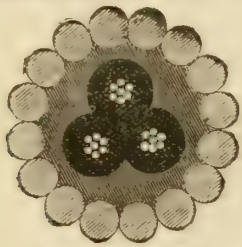
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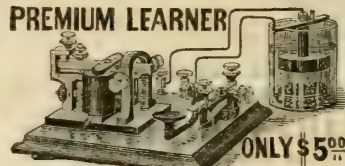
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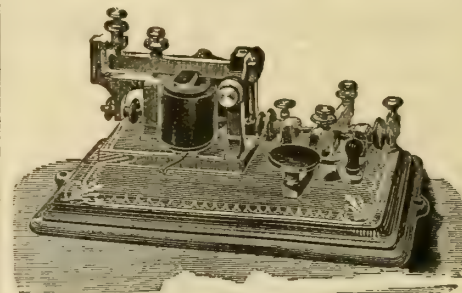
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The discovery of the insulating compound known as Kerite is the result of more than ten years of uninterrupted experiment and application, as well as twenty years previous experiment and experience in the manufacture of India rubber. About ten years of this time was spent in assisting Mr. Charles Good-year in the experimental department, while perfecting his improvements in vulcanized India-rubber and its varied applications.

The necessities of the telegraph business requiring an indestructible insulation, stimulated me to the discovery and perfecting of my compound known as Kerite, which combines the great advantage of durability with perfect insulation.

Kerite insulation is proof against the action of the corrosive elements in the earth, air, and water; and, where it has been practically tested, has proved its superiority to all other insulation.

Durable Qualities of Kerite.

It is not injuriously affected by the extremes of heat and cold experienced in our climate, nor by length of exposure in the atmosphere.

It will endure long-continued heat below 200° Fahrenheit, while for short intervals it may be subjected to 250° to 300°; and it may be safely immersed in boiling water.

The action of water, salt or fresh, not only protects all its qualities, but very much improves its insulation.

It is also unchanged by being placed in the ground. Any corrosive elements in the earth do not act upon it; nor is it injured by the roots of plants, which soon destroy gutta-percha.

There are thousands of miles in use throughout the country, by Fire Alarm and other Telegraph Companies of all our principal cities.

It has been used largely in the city of New York, under all conditions and exposures, for the last nine years.

Constant exposure to the sun and atmospheric changes are the severest tests that can be given in practical use.

EMINENT ELECTRICIANS AND PRACTICAL TELEGRAPHISTS commend and recognize the Kerite insulation as superior to all others.

GEORGE B. PRESCOTT, Esq., Electrician of the Western Union Telegraph Company under date of Sept. 25, 1874, says:—"In September, 1869, we placed some of your Kerite wire, unprotected by any covering whatever, in the tunnel under the river in Chicago, and have since continued its use in that exposed situation with the most gratifying results. A portion of the tunnel is very wet, and water saturated with lime constantly drips upon the wires, while in other portions they are kept alternately wet and dry, which is well known to be one of the severest tests that any insulating material of an organic nature can be subjected to; and yet, after five years' exposure, under the above conditions, the Kerite covering shows no signs of decay or deterioration. An insulating covering of India-rubber or gutta-percha under a like exposure, would have been destroyed in much less time."

February 12, 1877, he writes further, "This piece of Kerite wire, unprotected by any covering, was in use in the tunnel under the river in Chicago from Sept. 1869 until December, 1876, and shows no signs of decay or deterioration in its insulating qualities."

Prof. MOSES G. FARMER says, "I have used your Kerite as leading wire more or less for four or five years. It stands abuse, changes of temperature, alternate wetting and drying better than any insulator I have tried."

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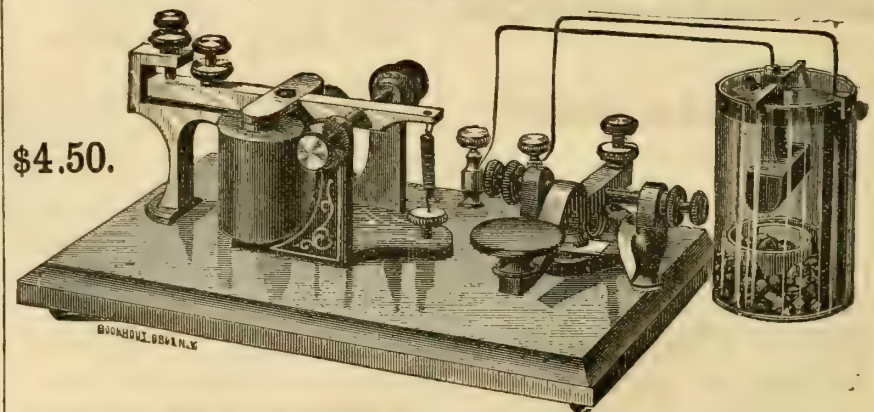
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How Old Art Thou?

How old art thou? Is life's fair morning glowing
In glorious beauty o'er thee? Does thy heart,
With hope and fancy's dreamy bliss o'erflowing,
Deem earth a paradise, where sorrow's smart
Nor grief nor fear may come? Is pleasure dinging
Fair flowers and precious fruits about thy way,
And, from its treasure-house of blessings, bringing
New joys to charm and make thy spirit gay?
Oh, in the sunlight of thy young heart's gladness,
Remember, thou, that chance and change may come
E'en upon thee, and with a cloud of sadness
Wrap thy bright visions in funeral gloom—
And, though the saddening thought calls forth an anxious sigh,
Think that, though few thine years, thou'rt old enough to die.

How old art thou? Is youth's gay season over?
Hast learned that life and joy are things apart?
And dost thou wear a sunny smile to cover
The anguish of a disappointed heart?
Or are life's loveliest gifts outspread before thee—
No good withheld, no fond desire denied—
Hath fortune waved her golden scepter o'er thee,
Bidding each longing wish be gratified?
Or hath ambition's magic influence bound thee,
Luring thee onward to some lofty height
Above thy peers, where the proud world around thee
May gaze, admire and own thy spirit's might?
Alas! nor grief nor bliss nor aspirations high
Can turn Fate's shaft aside! Thou'rt old enough to die!

How old art thou? Thou feeble man and hoary,
Gay youth and manhood's prime have passed away,
And on thy brow Time's record tells the story
Of ripen'd years, and nature's sure decay.
As lengthening shadows mark the day declining,
Life's dial plate denotes thy setting sun—
And soon, all earthly thoughts and cares resigning,
Thou'lt rest in calm repose, thy labor done,
The past, with all its mingled joys and sorrows,
Its wealth and honor, can be naught to thee,
When from the future thy worn spirit borrows
Visions, which prompt fond longings to be free,
And taste of bliss unknown to mortal sense or eye,
Eternal in the heavens. Rejoice! 'Tis time for thee to die!

SAMUEL D. PATTERSON.

"Over the Wires,"

First, I must tell you who I am, and how I came to be in the Baysville Bank in the "we sma' hours" one dreary December night, some three years ago.

My name, then, is Olive Hudson, and I was seventeen years old that same December night, and so very small that Mrs. Knight's Dolly, who was not twelve, was half a head taller than myself.

We were rich folks once, but father died and left us very poor. Mother struggled along in a weary hand-to-hand fight with poverty till I was sixteen, and died. She had rented two rooms of Mrs. Knight, also a widow, with two stalwart sons, an aged father and two daughters. After mother died, I was adopted by the Knights, and although I was earning a support as music teacher in the Baysville Academy, I was like one of the family, when I was in my good landlady's home.

They were all in good positions, although by no means an aristocratic family. John, the eldest son, was in New York in a wholesale sugar house; Tom was the night-watchman of the Baysville Bank building, and grandpa—we all called him grandpa—was telegraph operator of the town, while Mary was a milliner and Dolly still at school.

Baysville Bank building was a large granite structure, containing the post-office and bank on the first floor, and other private offices on the third floor. In the basement were post office

rooms for sorting the mail, and also the large bank vaults.

I knew the building well, for I was fond of telegraphing, and spent half my leisure time perched up beside grandpa in his office, sending and receiving messages, while he slept peacefully or read the newspapers.

And that was the beginning of my amusement at Dryden, the next station. The operator at Dryden was a wit, and flashed nonsense to our office when business was dull. It fell flat when grandpa was in the office, but if I were there, I sent back jest for jest, and sometimes an hour slipped by like a minute as we talked over the wires of every topic under the sun. He called himself "Lion," and I, for nonsense, signed myself "Elephant," laughing while I did so at the reflection of my tiny figure in the office mirror.

Beyond Dryden, and only five miles from Baysville, was C—, a large commercial town, the nearest railway station, and where an office was always open for the accommodation of travelers.

As I have said, Tom I—night was the night-watchman of Baysville Bank building, and a lonely time he had of it. The last mail came by stage at four o'clock in the afternoon, and the post-office was vacated at six. The bank closed at three, and by six every office was deserted for the night.

At seven Tom was on duty, and grandpa, who was restless at night, was in the habit of taking down some coffee and luncheon, as the building was only a stone's throw from our house.

On the December night I have already mentioned, it had stormed heavily all day, and I had taken a new class at the academy, coming home later in the day than usual, and excited over my increase of salary.

Everybody else had gone to bed, and I was lingering over the kitchen fire with Mrs. Knight, dreading the plunge into my cold room, where I had allowed the fire to go out.

The clock struck twelve, and Mrs. Knight, lifting her face from over the fire, said:

"Do call grandpa, Olive, he's asleep on the sofa in the sitting-room. I'll have Tom's basket ready by the time grandpa has his hat and coat on. I hate to call him, for he was complaining of rheumatism to-day, and the ground is very wet, although the storm is over."

"Let him sleep," I said, "I'll run over with the basket. It is not a step."

"But it is so dark. Are you not afraid?"

"Not a bit. I'll slip on my water-proof and rubbers, and draw the hood of the cloak over my head."

"Well, if you will. Though I am afraid Tom will scold at my letting you go."

"I'll put the basket on the table and run, and he will never know who left it."

"Go into the rear basement door. He leaves that open for grandpa."

"I know."

I grasped the handle of the basket, hurried across the space between the building and the house, and stole softly in at the basement door, in pursuance of my plan to drop the basket and run.

In my rubber shoes my steps were noiseless, and I had scarcely passed the threshold when I stood rooted to the floor in terrified amazement.

Somebody was talking!

I crept forward and listened. There were men in the bank vault, and a light shone under the door.

While I listened some one said:

"There's a confounded draft here. Did you shut the door, Smith?"

"Yes, but the wind may have blown it open."

I had just time to dart under the staircase and crouch down, when the door of the vault opened and a man came out.

He crossed the entry, drew the two heavy, noisy bolts, fastening the door by which I had entered, and returned without closing the vault door.

I could look in by the dim light to see two men working at the safe locks by the stream of light thrown from a dark lantern.

There was the outline of a man bound and gagged upon the floor, but I could only conjecture it was Tom, for I could not see distinctly.

There I was, nicely caged, for it would be impossible for me to draw those heavy bolts without attracting notice. And the bank was being robbed, that was evident. How could I prevent it? I could not get out; I could not reach Tom. Suddenly I remembered the telegraph office on the second floor. If I could summon help from C—, it was only five miles, and there was a long job for the burglars before they could open the safe.

Could I creep around the staircase? If one of those busy men turned his head I was lost. I softly crept out on all fours, slowly, watchfully, and gained the stairs. Up I darted, blessing my Indian rubber shoes, till I gained the door of the telegraph office. All dark there, and I dare not strike a match.

I listened, and then leaving the door open, groped my way to the well-known desk, and gave the signal at C—. I could hear my own heart throbs as I waited for the answer. It came! Still working in the dark I sent this message:

"Burglars in the Baysville Bank vault! Watchman gagged and bound! Can you send help?"

Again the agony of suspense in listening, but at last the sound reached me:

"Will send help immediately!"

I crept to the head of the staircase, afraid the clear ring of the instrument had been heard in the vault; but no one came up-stairs. The window of the telegraph office faced the street, so I returned, bolted myself in safely and sat down to watch.

The town clock gave one resonant stroke, breaking the deep silence, and no signs of life were visible on the long stretch of road leading to C—. I was numb with cold, wishing heartily that I had not left Tom's basket under the staircase, thinking regretfully of my own cozy bed, when I heard afar off the sound of horses' feet.

No Sister Anne in Bluebeard's tower was ever more watchful than I was then. Would the burglars take the alarm?

The building made a corner of two streets, and I saw eight mounted men dash up the road, separate, and while four dismounted in front four went to the rear.

The burglars were unprepared for this flank movement, for while the police in front were thundering at the main entrance, the robbers rushed to the rear basement door, right into the arms of the police stationed there.

I could hear the hubbub, pistol shots fired, the scuffle of feet, cries, oaths and general confusion, and I slipped down stairs, out of the now deserted main entrance, and ran home.

Everybody was in bed, and I went to my own room, had a good crying-spell, and comforted my half-frozen body in double blankets, where I soon fell asleep.

All this was on Friday night, and I had no teaching to do until Monday, so I slept late; but coming down found all the family prepared to make a heroine of me.

"I never knew until mother told me this morning," said Tom, "that it wasn't grandpa who sent the telegram to C—. By Jove, Olive, you're spunky if you are little. I gave up when four of them pounced on me from one of the upper rooms. They must have got in through the day and hid there."

I tried to make the Knights promise not to tell my adventure, but could not. Before night all Baysville knew how Olive Hudson caught the burglars. I was in the office with grandpa, when over the wires came this message:

"What does Olive Hudson look like? Everybody in Dryden is talking about her great exploit."

I flashed back:

"What do you suppose such a woman would look like? She is nearly six feet, broad-shouldered and loud-voiced, a perfect Elephant."

"Was it really yourself, Elephant?"

"Dear Lion, it really was!"

"Do you know, I want to see you. I am going to New York to-day; but I'll be back next spring."

If he came to Baysville he did not see me. I ran away in a fit of shyness.

In March a wonderful thing happened. My mother's brother, who had been seventeen years,

nearly all my life-time, in Cuba, came out to New York, found me out and took me into a life of ease and luxury, making me his pet in his splendid house. He was a bachelor, over fifty years of age, handsome, and well informed, and with large wealth.

He introduced me to old friends of his own, and my circle of acquaintance widened every day. I was entirely happy, for we loved each other well.

One day Uncle George brought home to dine, a stranger whom he introduced as:

"The son of an old friend, Olive, Mr. Roberts."

I made myself agreeable, as in duty bound, to Mr. Roberts, a man of thirty or thereabouts, with a face that was downright ugly, but pleasant from the expression of frank good humor and intelligence upon it. We talked of everything, and I was surprised at the congeniality of taste we soon discovered. In an animated discussion of heroines, Mr. Roberts, turning to Uncle George, said:

"You were kindly inquiring, this morning, about my fortune since father died, but I did not tell you one little episode. Before I was fortunate enough to obtain my present lucrative position, I was for a time telegraph operator in a small place called Dryden, and then I heard of a real heroine, of whom the world will probably never hear."

I knew what was coming, but I kept my face perfectly composed to listen. When the story was finished, giving Uncle George a sly pinch to keep him quiet, I said:

"What kind of a looking person was the wonderful heroine?"

"I never saw her; for although Baysville was the next village to Dryden, I never went there. But she was described to me as tall, strong and masculine."

"In short, my dear Lion," I said, gravely, "she was a perfect Elephant."

Such a stare as greeted me I am certain never came upon Leo Roberts' face before or since that hour. His eyes dilated till I thought that they would pop out of his dear, ugly face, and his mouth opened in utter amazement. Finally he remembered his manners and gasped:

"Pardon me, I—was it really you?"

"Uncle George," I said, "will you please introduce me properly to Mr. Roberts? I believe he thinks your niece must share your name."

With a flourish, Uncle George arose, and gravely introduced:

"Mr. Leo Roberts, Miss Olive Hudson—Miss Hudson, Mr. Roberts."

After that we could not certainly be strangers, and Mr. Roberts came "many a time and oft" to dine with Uncle George.

And one day there was a wedding, where the bride was very small, buried in lace and orange blossoms, and the bridegroom was ugly and good natured; but it was a true-love match, a fit ending for the flirtation commenced at Dryden and Baysville, "OVER THE WIRE."

S. ANNIE FROST.

Claims Against the Western Union.

According to the last statement of the Western Union Telegraph Company, the estimated balance on October 1, 1879, after payment of the usual quarterly dividend, is over \$1,000,000. There are several reasons why the managers of the company may have deemed it wise not to divide any portion of this large surplus among the stockholders at present. They are undoubtedly aware that the American Union Company is making rapid progress in the completion of a telegraph system only surpassed by that of the Western Union Company itself. That the managers of the Western Union Company have a lively appreciation of the effect of the new company upon the revenue of the Western Union, is evinced by the determined effort made by them to retard (they know they cannot prevent) the completion of the American Union lines wherever interference is possible. There are also probabilities that there will be other demands at an early day for all the surplus now held by the Western Union Company. The suit of Harrington and Edison against the Atlantic and Pacific Telegraph Company, more than one-half of the stock of which is owned by the Western Union, has been pending in the United States Circuit Court for the Southern District of this State for more than three years. The suit involves a claim

for \$4,000,000 of the Atlantic and Pacific Company's stock, growing out of the contract made by Mr. Jay Gould on the part of that company and Mr. Josiah C. Reiff, representing the telegraph inventions of Mr. Thomas A. Edison. After more than two years' delay in hearing argument on a demurrer entered by the Atlantic and Pacific Company, Judge Blatchford overruled the motion and compelled the Atlantic and Pacific Company to answer. He has now granted the plaintiffs a commission to examine Mr. George Harrington, one of the principal witnesses, who is in Europe in failing health. The examination has been set down for September 26, at Paris, and so important to the Atlantic and Pacific Company is it that the force of Mr. Harrington's testimony should be broken, that Mr. Wheeler, counsel for the company, is to be sent to Paris to cross-examine the witness.

The suit of Edison and Harrington against the Western Union Company, which has been pending for a long time in the United States Court in the District of Columbia, it is now believed will reach a speedy trial. Pursuing its customary tactics, the company has been interposing every possible delay, and recently entered another dilatory motion in the form of a "plea," but, instead of taking measures to have this motion set aside, the plaintiff's counsel has joined issue with the company with a view of bringing the case to trial on its merits, and, unless the Western Union is superior to the Constitution of the United States, there is a very fair prospect of its being compelled to pay a large sum for the use of what the late President Orton pronounced: "The greatest invention since Morse." In the gutta-percha case the report of the master appointed to fix the amount of damages for past use, as well as the royalty for the future, it is thought will be made during the current month, when there is no doubt that the Western Union will be again called upon to turn over a large sum to the present owners of the gutta-percha patent.

It will thus be seen that the Western Union may soon be in great need of even a much larger surplus than that reported in its last quarterly statement. Some of these cases cannot be postponed much longer, and from the judicial opinions already given, there is little doubt that the company will be required to pay judgments amounting to several million dollars.—*N. Y. American Exchange.*

Novel Method of Testing Iron Wire.

An apparatus, founded on well-known laws of electro-magnetism, has been recently brought out that promises to be of great value in testing iron and steel wire. Upon a firm foundation is placed a helix of insulated copper wire wound upon a spool of paper, rubber, wood, or other non-conducting material, and through the center of the spool is bored a hole, so that a wire rod may be passed through the helix. When the helix is connected with a battery, any piece of iron passed through it becomes an electro-magnet. Opposite one end of the helix is placed a magnetometer, having a needle delicately balanced and placed upright. The magnetometer is placed upon a sliding support so that it may be placed in any position in relation to the electro-magnet, and by moving it forward or backward before the helix, a point may be found where the needle will indicate the maximum intensity of the magnetism in the wire rod. The magnetometer is then fixed in this position by binding screws. The rod of soft iron in the helix being of known density and tensile strength, it becomes, by the aid of the magnetometer, a standard of comparison in testing other wire. The needle of the magnetometer has an aluminum pointer riveted to the upper end, and as the needle moves the pointer traverses a semi-circular scale divided into 180 degrees, marked from zero in the center to 90 degrees each way. After arranging the apparatus with the test piece of soft iron so that the pointer rests at zero, the rod is removed and a steel rod of the same size and length and of known density and strength is placed in the helix. At once there is a change in the position of the needle, indicating a change in the magnetism of the wire. When the needle is at rest, its position on the scale is carefully noted. This gives the relative magnetism of two rods of the same size and length and varying density and strength, and from this data it is easy to measure the comparative density and strength of other wire of the same size. Reels are

set up on either side of the apparatus, and upon one is wound a quantity of steel wire to be tested. Having passed the wire through the guides, under the needle and through the helix, it is fastened to the other reel. On turning the reel the wire passes through the apparatus, becoming magnetized as it passes the helix, and recording its magnetic condition by the position of the needle, and thus its density and strength. If, while the wire is passing, the needle falls to zero or below, it shows that the portion of the wire then in the apparatus is of the same or less density than the soft iron test rod, and as the needle approaches the point marked by the steel test rod, so the density approaches that of the steel test rod, and thus its comparative strength may be seen at once. If there is a flaw, crack or break in the wire, though it is not visible on the surface, the needle instantly shows it, as every change, however small, in the density of the wire is indicated by a change in its magnetism. This most interesting apparatus can be arranged for testing plates, shafting, columns, parts of guns, and machinery of every shape and size, and seems likely to prove of great value in finding flaws and minute imperfections in iron that cannot be found by sight or touch.—*Scribner's Monthly.*

Revolution in Telegraphy.

We are requested by Mr. Craig, formerly agent of the Associated Press, to publish the following:

If revolutions never do go backward, the forward movement is not always with uniform momentum, for selfishness, conceit, ignorance, or indolence—one, or often all combined—too frequently block the wheels of progress, and are content to sit down at the mere threshold of discovery when the world demands a forward movement.

Albeit, wisdom teaches patience. As nothing comes before its time, except much that had better not come at all, each real step in the world's advancement seems never belated.

The Phenicians made extended voyages, following the shore line or guided by the stars, and the ships of Solomon and Hiram found the far away ports of Ophir and brought thence its gold and ivory, but when a new continent was to be found and a world's commerce inaugurated the mariner's compass was needed, and it came.

In the age of Herodotus, papyrus, the split reed, and inkhorn, fully answered the wants of the historian and the philosopher, but the advancing age of civilization gave birth to the needful time to movable types and the printing press.

The ox team and horse power on land, and canvas on the ocean, answered all the needs of commerce or travel till the times were ripe for change, and then came Fulton and the era of steam, in its multifarious application to commerce and to every department of improved machinery for agriculture, mechanics, the household industries, and all the accruing needs of society.

The vastly extended facilities of the mail, with corresponding reduction of postal rates bringing its advantages within the reach of the humblest citizen, have been only the answer to universal demand, while it has demonstrated the financial wisdom of low rates for the masses. Penny postage in England had passed from experiment to full success long before we in America had reduced letter postage below 18½ cents for 250 miles and twenty-five cents for greater distances. When begrudgingly the postal rates were reduced, first to five and then to three cents, it was mainly because the steamboat and the postal car made increased transportation possible, and the people wrote millions of letters where before the reduction they had written hundreds only.

When a passage by steamer to Europe cost \$300, only the rich could enjoy an ocean voyage; but since \$50 or less pays one's way to England or the Continent, the Atlantic has become a ferry, and is daily traversed by thousands of all classes.

The electric telegraph, with its myriad wires upon land and its countless wire cables under the oceans, girdling continents and shortly to girdle the earth, are astounding facts of material progress; and the telephone, with its marvelous adaptation to the needs of business and the pleasures of social intercourse, though widely separated, are vast strides in material progress, which have taught the world to marvel at nothing as impossible. But have we reached the end? Is there no further advance to be made—no enlarging of its sphere for the advantage of the millions? No reduction of rates, to

bring its Heaven-bestowed blessings to the doors of the poorest in society, and thus unite in bonds inseparable the widely sundered families of the earth? How long must we chafe at the inevitable ten-word message of business or friendship, while we yearn for a page of burning thought or engrossing news, despairingly comparing the brevity of our purse with the length of the telegraph tariff? Must we accept the statement of telegraph experts as decisive that no material reduction from the present tariff is to be hoped for? It is, we fear, too true, so long as the present cumbrous and expensive appointments of telegraph companies continue in general use.

What has science and invention in store to answer these questions satisfactorily for society and the increasing demands of business?

In another number of this journal we will answer this question.—*N. Y. Herald.*

Flashing Signals.

The interest which has recently been taken in England in the sun-signals which were flashed between Lord Chelmsford's army in Zululand and Major Pearson's advanced position at Ekowe has suggested to the directors of the Polytechnic Institution a popular subject, which has been introduced in the form of an illustrated lecture. The flashing of signals may be and is done in a great variety of ways. The fundamental principle of the language flashed is the Morse telegraphic alphabet, or a special series of numerals composed of long and short signs, which are read off by specially constructed dictionaries of sentences. Thus, one, two, three, four, five short flashes mean respectively 1, 2, 3, 4, 5; one long-sustained light represents 6, one long one short 7, one short one long 8, two short one long 9, and one long two short 10. A pause is made between each figure, and the signal is repeated by the sender until it is repeated by the receiver. Thus, three short flashes would be 3, two short one long would be nine, and two short would be 2; the full signal 392. Looking to the book of sentences 392 would be found to be "Enemy on the alert." The sun flashes are made by a specially prepared instrument called a heliograph, the principle of which is simply the angulated mirror which every schoolboy is thoroughly familiar with. When the days are dull and the sun not available, other means are resorted to, one of the most effective being a large erection on the principle of the Venetian blind. When the laths are open the structure at a few miles distance is invisible; but when closed the form of a large dark tower is presented to the distant observer, which appears and disappears at short or long intervals, and gives thus the like telegraphic language and conveys the same signals. The collapsible drum, the Colomb magnesium lamps, the electric light, the fog horn and steam whistle, are all similarly employed for the same purpose and upon the same basis, both ashore and afloat, so that, under all circumstances of weather, signals of importance can always be got through distances of ten or fifteen miles.

The Western Union Report.

The report of the Western Union Telegraph Company of its business for the current quarter, which will be found printed elsewhere, shows that its net earnings, after the payment of accruing interest, appropriations for the sinking fund, and the ordinary charges for additional construction, improvements, etc., were \$982,723. This sum is equal to 2½ per cent. upon the outstanding capital stock of the company, or at the rate of 9½ per cent. per annum. If it is remembered that these earnings are what is left after the payment of 7 per cent. interest on over \$6,000,000 dollars bonded indebtedness, making a total capitalization for the company of about \$48,000,000, and that of that capitalization at least \$28,000,000 is pure water, representing no money ever expended upon the construction of the company's lines, or in the purchase of its properties, the statement of the Western Union Company furnishes the strongest reason why opposition companies should receive the support and encouragement of the mercantile and financial community. Because the Western Union Company at present is almost an exclusive monopoly, it is enabled to levy a tax upon the people amounting to \$3,000,000 a year. This sum of itself is not a large amount to be collected, in 25 and

50 cent pieces, from the whole people of the United States in a single year, but this \$3,000,000 added to the taxes imposed to sustain the fictitious capitals of other corporations that perform services for the people, helps to swell the aggregate burdens, that are manacled commerce and labor for the especial benefit of a few unscrupulous capitalists.

Regarding the statement, however, we may be permitted to suggest a possibility, if not a probability, that the expenses of the current three months that are deducted from the company's gross earnings, before reporting its net profits, do not include the extraordinary expenditures which the company has been at in placing obstacles in the way of constructing the opposition company's lines. Lawyers that do the dirty work of corporations do not accept moderate fees for their labor, neither are the officials of municipalities bought for a song. So perhaps the allowance of net earnings equal to 9½ per cent. on the capital stock may be slightly over-estimated. —*American Exchange.*

Capital Punishment by Electricity.

Some German writers have long discussed the evil influences of public executions, which possess the fascination of a sensational show to the ignorant masses, and demoralize with the brutality of the method of death. The garrote, the guillotine, and many other improvements, have received due consideration, but the sentimentalists have at last concluded that a solemn killing by electricity is the proper thing. The present plan merely expiates one murder by making the executioner do another, but the electricity can be made to do the thing conscientiously and "officially." The walls of the room shall be draped in black, and the windows somberly curtained, in order to exclude all light. The only articles of furniture in the apartment shall be the judge's desk and an armchair. In the middle of the room shall be an iron figure of Justice, with her scales and sword. This effigy shall have, in place of bowels, as powerful an electric battery as may be necessary. The battery shall be connected with the armchair, and governed by a mechanism in connection with the scales. The scene shall be lighted by a single torch burning on the judge's desk.

The only persons admitted to the execution shall be the judge, jury, and other officials concerned in the condemnation of the victim. That person shall be brought in and seated in the chair, to which he shall be menaced immovably. Then the judge shall read the story of his crime to him and reiterate his sentence. This performed, he shall break a rod of office and toss it into Justica's balance.

The scales shall be weighed down by this, and the electric current thus set in circulation. As the balance descends the judge shall extinguish the torch, signifying that he thus puts out the victim's life.

Thus the criminal will expire in dreadful darkness, without a chance of the sort of sympathy which so often adorns the scaffold. It will be as solemn and awful as the doom of impalement that the church inflicted on recalcitrant nuns.

The Cowper Writing Telegraph.

Mr. E. A. Cowper recently described before the Mechanical Section of the British Association the details of the construction of his writing telegraph, and the mode in which a pen at a distant station was made to write freely, as the operator at the sending station wrote with a pencil at the sending instrument. He explained the necessity that existed for causing the two currents of electricity that conveyed the power to the distant station to increase steadily and gradually without any sudden large increase or decrease of resistance being opposed to such currents; the construction of the necessary resistances being practically that of one very long, thin German silver wire, having 32 metal plates soldered to it at the proper intervals, such plates being all brought very close together with simply a thin sheet of paper with paraffine between them, so that a contact rod in connection with a battery with a small knob or projection on it could slide over the tops of the plates and make contact with each one in succession. Then two such contact rods joined to the pencil of the operator and placed at right angles to one another worked over the tops to the two separate sets of contact plates, each set affecting one line wire, so as to

give latitude and longitude of the pencil of the operator at all times. The quick action or perfect response of the needles of the receiving instrument, which directly controlled the writing pen, was obtained by using exceedingly thin soft iron plates, both for the needles and for the magnets which affect the needles, so as on the one hand to have the least possible amount of momentum and *vis inertia* in the needles, and the least possible residuary magnetism in the magnets. The needles were slightly curved in their section to stiffen them, their thickness being only 1-110th inch, and were mounted on polished hard steel bearings, and were thus exceedingly free and lively, as a very small amount of friction or weight in this part of the instrument would be fatal to good writing. The power of the needles was insured by fixed flat coils that surrounded them, brought into action by a local battery, while the two line wires were coiled around the fixed magnets that affected the needles and attracted them more or less as the strength of the currents varied. Then the needles, being at right angles to each other, pulled the pen in the two directions, vertically and horizontally, and also pulled against two light springs, so that the pen took exactly the varying positions due to the varying strength of the currents, which again depended on the position of the pencil of the operator. The paper on which the operator wrote and the paper on which the pen wrote at the opposite end of the line both moved along by clockwork, so as to write a long continuous message or telegram. In answer to questions, Mr. Cowper said that the instrument had worked perfectly at a distance of 99½ miles. At present the operator could send messages at the rate of twenty words per minute, but he hoped that would be increased.

The New Quebec Coast Line.

All the lighthouses between Father Point and Cape des Rosiers, on the Lower St. Lawrence, seven in number, are now connected with each other and with the general telegraphic system, and have, therefore, constant communication not only with all parts of the Dominion but with the world at large. They are also signal service stations, the keepers being about to undergo a course of instruction in the art of signalling according to the usage of the international code, under the superintendence of Mr. F. N. Gisborne. The importance of this addition to our telegraphic accommodations can hardly be over-estimated. What has long been so eagerly desired by navigators in those waters, and what many more have missed with agony in their hour of danger and impending death, the means of announcing their position, circumstances and wants, will now be at the service of every passing craft. By the use of the code, sailing vessels and steamers can inform the lighthouse keepers, who can forward the intelligence whithersoever they may be directed, of their names, freight, passengers, or any other particulars, with only the most trifling expenditure of time and effort. Masters of ships can consult the proprietors as to any commission that may have been forgotten in the hurry of departure, or receive instructions on any matter whatever. Passengers and their friends will be in the enjoyment of a like advantage. But it will be in cases of accident especially that the benefit of the code will be manifest. The news can be at once transmitted, and the required aid dispatched in a few hours. Joined with the pleasure which it is natural to feel at the consummation of work of such great value and such general interest, is regret at the thought of the lives that might have been saved and the vast amount of benefit which might have otherwise been derived from it in the long years of delay which have elapsed since its first proposal. We may add that, as well as these seven lighthouses, which, from the additional duties attached to them, become virtually telegraph stations, also, there are on the coast in question fifteen ordinary stations, making in all twenty-two. Now that so much success has attended the efforts made on behalf of the South Shore, we are glad to learn that similar urgency is being brought to bear on the needs of the North Shore.—*Montreal Gazette.*

It may not have occurred to His Honor Mayor Stokely that he is playing too strong a hand in favor of the Western Union Telegraph monopoly, but it is very plain to the general public that he is straining at a gnat, notwithstanding that he has been swallowing overgrown camels for some time.—*Philadelphia Sunday World.*

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY.

W. J. JOHNSTON, - - - Publisher.

September 15th, 1879.

THE history of the electric light extends over a period of thirty years.

THOSE about starting telephone exchanges should read the advertisement of the City and Suburban Telegraph Association of Cincinnati, on page two of this issue.

A PAPER by Mr. Edison on "The Phenomena of Electrically Heated Metal in Vacuo" was read at the recent meeting of the Association for the Advancement of Science, at Saratoga.

SINCE our last issue W. H. Joyce, bookkeeper, and William Seidle, night check boy, both of Memphis Western Union office, have been taken down with yellow fever. Latest advices report them both doing well.

THE American Union Company, the American Rapid Telegraph Company, and the Baltimore and Ohio and the Wabash Railroads filed their acceptances to do general telegraph business, at Washington, September 9th.

A CABLE dispatch from London states that the Paris correspondent of the *Standard* says that experiments with the Edison telephone between two points fifty miles distant were made the day before with highly satisfactory results.

AN operator having a good situation in a Southern city, but who desires to come East on account of his wife's health, wishes to exchange for a position in either of the States of New York, New Jersey, or Pennsylvania. The advertisement will be found on first page of this issue.

IT is said that Mr. Clinton G. Colgate, who has been so successful in his suits against the Western Union and Gold & Stock in establishing the validity of the Simpson patent for the application of gutta-percha as an insulator for telegraph wires, now threatens similar suits against the several cable companies.

MESSRS. PARTRICK & CARTER advertise in this issue the Carter Battery, a new battery for telephone lines, electric bells, hotel annunciators, and other open circuit work, which is claimed to be fully equal in power and durability to any open circuit battery in the market. The price is only \$1.50 per cell. See advertisement.

ENGLAND does not appear to be the only country in Europe where male telegraph operators are taking the place of female. There are only eighty-one female operators employed in the German Imperial Telegraphs, and these are confined to the Duchy of Baden, having been taken over at the transfer to the Government. These are to be gradually superseded by male operators as vacancies occur.

The American Union.

The American Union is making good progress in the completion of its lines, notwithstanding the many obstacles that are being placed in its path. The trouble at Philadelphia has not yet been entirely adjusted, and work at that point is still suspended, but it is said that there is no doubt that the matter will be satisfactorily arranged in time to permit the company to open the line for business by the time its other wires are completed. The authorities at Elizabeth ordered the company to remove within ten days the poles it had erected through that city, but it is believed that this will hardly be insisted upon. Should it be, however, another route through the city has been secured, and little or no delay will occur. The American Union linemen have been arrested several times at Jersey city, but do not appear to stay arrested for any considerable length of time, and the building of the line through that city is now progressing.

The building of new lines in other directions—through Vermont and in the West—progresses vigorously. Poles are erected at the rate of three miles a day, the men having tents with them, and living in camp. Unusually substantial lines are being erected, and no trouble is experienced except from the Western Union or at that company's instigation.

The most determined effort to impede the progress of the American Union was that made through New Jersey, other lines being apparently allowed to progress without much opposition. The Buffalo line, however, was bitterly fought step by step throughout the State by the Western Union, the American Union not being permitted to put up a pole without encountering opposition. The most decided opposition was made at Buffalo, the Western Union exerting every effort, but without success, to defeat the new company in getting a grant from the city to put up poles. The American Union erected their poles, notwithstanding the obstacles thrown in their way by the Western Union people. The poles were cut down and the wires were clipped in the night time. The most determined fight was shown when the American Union laborers on Friday last, September 12th, reached the corner of Seneca and Pearl streets. Here the American Union men put up a 65-foot pole, so as to pass over the wires of the Western Union Company. After getting the pole up on Friday night they went home. At midnight the manager of the American Union learned that the Western Union Company was hoisting new poles about twenty feet either side of the 65-foot pole. He quickly gathered his men, and they began stringing their wires. The Western Union employes cut them as fast as they were run over the poles, and things began to grow warm. Hard words were used, and it looked as though the opposing parties would come to blows, but the police interfered and things remained quiet until about noon on Saturday.

The American Union Company kept a man on the high pole all day to prevent its being cut down, and the Western Union Company had a man at the foot with a large axe to fell it as soon as the other man should come down. Both companies had large gangs of men on the scene. Words were continually exchanged, and about 3 P. M. were followed by blows. A Western Union man called an American Union man insulting names, whereupon the offender was knocked down. This

was the signal for a general fight, and for a few minutes matters were exceedingly hot. A revolver was drawn, and hatchets, vises, nippers, etc., were freely and dangerously displayed. A large police force was soon on the spot, and the affray was broken up. Twenty-one men were arrested, including the chief operator and line superintendent of the Western Union, and the gang boss of the American Union. They were taken before the Police Court and admitted to bail. No serious injuries resulted from the fracas, except that one man had his arm cut with a hatchet. The police took possession of the ground, and no further disturbance is expected, as the authorities will not allow work to go on until the difficulty is adjusted.

The new company has secured for its head office in New York the large double building Nos. 135 and 137 Broadway, one block below the old telegraphic landmark of "145." It expects to open for business, notwithstanding the opposition of the Western Union, about the middle of October. Only a few operators have been actually engaged thus far, but a large number have been picked out and will be offered situations as soon as the company needs them.

Profits \$377,930 a Month.

From the quarterly report of the directors of the Western Union, just issued, we learn that the net profits of the company for the three months ending June 30th, were \$1,133,792, or \$30,789 more than the estimate made at the last quarterly meeting. A dividend of 1½ per cent. for the three months was declared. The net profits for the quarter ending September 30th are estimated at a still larger sum, \$1,259,223.

This is the way the company brought its dear employes safely through the season of financial depression! The company is doing a better business now than it ever did before, and making more money, but what difference does this make to the hard-working operators, unless, indeed, it be that the more prosperous the company becomes, the more they are ground in the dust?

The main office in this city is a very good criterion by which to judge the state of business throughout the entire country. During the Centennial year the largest number of messages handled on any one day in the general office in this city was 39,000, which was considerably more than that office had ever before handled in a single day. At the present time, however, the numbers run 47,000 a day, not to speak of a largely increased press business. Yet what disposition does the Western Union evince toward recognizing the services of the men upon whose faithfulness, skill and devotion depends, to a large extent, the proper handling of this enormous business, with its accompanying profits of over \$475,000 a month? Absolutely none. Its policy has ever been a grasping, grinding one, from the moment that it has had the matter of salary and the like in its own hand down to the present time. Fortunately for employes, this state of affairs cannot last much longer. Within a month the American Union will be actively in the field, and the healthy, and, for the operators, very necessary—competition thus occasioned, cannot fail, we hope, to cause an upward tendency in salaries, and in future at least respectable treatment of employes.

Agents for the Coming Fall

Our friends are aware that during the fall and winter months we make special efforts to increase the number of readers of THE OPERATOR. We shall shortly issue an extra edition of the paper, and mail a copy free as a specimen to most of the telegraph offices throughout the United States and Canada. Our present readers can assist us very materially in this respect by sending in personals and other items for the large edition, and afterward co-operating with us in obtaining subscribers. We shall also have a number of attractive books this fall, including a new one, now in press, which agents can readily sell either to telegraphers or outsiders. The commission on both books and papers is so very liberal, that all who take the slightest interest in the matter can make a handsome increase to their salaries by acting as agents. We are now re-arranging our agents list for this fall. Will all who are in a position to act as agent for us this fall and winter please send in their names at once, by postal card, and we will supply them at the proper time with circulars, extra copies, and any information they may desire from time to time. There is scarcely a single reader of THE OPERATOR who cannot do something for us in this direction, and we hope all will send in their names at once.

THE steamer Faraday has completed the laying of the first part of the ocean section of the new French cable. The line is expected to be complete to St. Pierre this month. The London *Financier*, of September 4th, announces that the Faraday has held direct communication with Messrs. Siemens Brothers, the cable constructors. The substance of the communication was that the steamer Germanic, which sailed from Queenstown on August 29 for New York, had passed her, and that all was well aboard the latter vessel. As the communication from the Faraday makes no direct reference to her own situation, the inference is drawn that she has retraced her course, and picked up the cable at the shallower end. A later dispatch reports that *The London Standard* has authentic information that the deep sea section of the French cable has been laid, and the line is completed from Brest to St. Pierre. The steamer Faraday is now returning to Europe to ship the section of the cable which is to connect St. Pierre with New York.

It was rumored last week that the consolidation of the National Bell Telephone Company, and the American Speaking Telephone (Gold and Stock) Company had been effected, with the control of the business in the hands of the Bell Company. We are informed, however, as we go to press that the rumor is premature, negotiations having been once more broken off. An effort at consolidation was made about a month ago, but the representatives of the companies were unable to agree in regard to the details. The negotiations fell through last week for the same reason. What the stumbling-block is in the way of the consolidation, or on what terms the companies propose to "pool their issues" it would not be easy to say; but that they will eventually come together is regarded as certain. The suits now pending are expensive to both sides; the question at issue is an intricate one, and if the case goes to trial it may possibly

result in demonstrating that each company is infringing on the patents of the other, and bring both to a stand-still.

A DISPATCH from Washington states that the patent recently issued to Thomas A. Edison, for improvement in electric lighting apparatus, covers one feature only of his apparatus. The invention relates to the combination with the light-giving body, a strip of platina foil, or a range of levers and contact surfaces, arranged in such a manner that the current is short-circuited, or shunted to a greater or less extent, according to the heat of the incandescent light-giving body. With this invention, if the light-giving body is injured or broken, the circuit is instantly closed, so that other lights in the same circuit are not extinguished.

ENGLAND has been somewhat tardy in introducing the telephone exchange system, already so popular in this country. It seems, however, that good progress is now being made by both the Edison and the Bell Telephone Companies to introduce the system in London, and afterward extend its use to the other large cities of the United Kingdom. The delay thus far is attributed by the telephone companies to the difficulty experienced in obtaining permission to lay wires through the streets, and also a desire to perfect the instruments before opening for business. The Edison telephone is also to be introduced in Paris on the exchange system.

ON September 5th Mr. Jay Gould telegraphed the munificent sum of \$5,000 to the acting President of the Howard Association at Memphis, to be used in caring for the victims of yellow fever in that city. In a telegram at the same time Mr. Gould also said, "Keep at your noble work until I tell you to stop, and I will foot the bill." Mr. Gould afterward telegraphed an additional \$5,000. The expenses at Memphis are at present \$1,000 a day, and if the fever increases they will, of course, be proportionately augmented.

MR. W. K. APPLEBAUGH, electrical engineer for the International Electric Company, sailed on the Canada, Sept. 3d, for the purpose of superintending the starting in France of a system of telephone exchanges. His headquarters for the present will be at No. 7, Avenue de l'Opera, Paris. We look back with pleasure to the days, only a few years ago, when "Ap" was one of the chief operators in the Western Union New York office, and congratulate him on the success which has led him, step by step, to be the chosen one for this important mission.

WE have received a copy of volume one, number one, of the *Messenger*, published monthly at Vicksburg, Miss., "in the interest of all telegraph messengers in the United States." It is of the size of a double sheet of note paper, and its contents can hardly be said to be telegraphic. The type is set up, and the paper printed and published by two messengers, the edition being worked off on the press used for copying messages.

THE New York Central Railroad advertises "electric light excursions" to Niagara Falls.

Themes for the Thoughtful

More money can never make a man a man.
To study the world is better than to shun it.
One must be poor to know the luxury of giving.
To understand the world is wiser than to condemn it.
Virtue is the safest helmet—the most secure defence.
No rank can shield us from the impartiality of death.
Employment for the mind is what thousands are in need of.
The power of eloquence is sometimes superior to military force.
It is in the power of the meanest to triumph over fallen greatness.
Occupation, association, diet, and air either make or unmake us.
By being contemptible we set people's minds to the tune of contempt.
Let amusement fill up the chinks of your existence, but not the great space thereof.
In life as in war the man who hangs back too long invariably loses the battle.
To make the world better, lovelier, and happier is the noblest work of man or woman.
He who refuses justice to the defenceless, will make every concession to the powerful.
When alone watch your thoughts; in your family your temper; in company your tongue.
Preserve the privacy of your house, marriage state, heart from relatives and all the world.
The virtue we appreciate is as much ours as another's. We see so much only as we possess.
Time foolishly employed is time lost, and every man is docked for the same in the book of judgment.
If a man can be happy and contented in his own company, he will generally be good company for others.
We take lessons in art, literature—a thousand things; but that high sense of honor, man's obligation to man, is forgotten.
Never envy a lazy man his leisure, for he has to labor ten times harder than the active man to keep out of the devil's clutches.
The rewards of the truly virtuous are inherent in their own lives, from day to day, and are none the less enjoyed, though they are unknown to all the world.
If we would have powerful minds, we must think, if we would have faithful hearts, we must love; if we would have strong muscles, we must labor. These include nearly all that is valuable in this life.
Too many do good deeds for 'the sake of popular applause, as the child curbs its wayward propensities for the sake of the promised sugar plums, only to renew its mischievous pranks with ten-fold energy.
In the stress and heat of the day, with cheeks burning, with shouts ringing in the ears, who, is so blest as to remember the yearnings he had in the cool and silent morning, and know that he had not belied them?
All things must change. Friends must be torn asunder and swept along in the current of events, to see each other seldom, and perchance no more. For ever and ever in the eddies of time and accident we whirl away.
Wealth is most envied but least enjoyed; health is frequently enjoyed but the least envied—yet the poorest man would not part with his health for money, but the richest would gladly part, with his money for health.
We all love pleasure and abhor sorrow. No one will choose a cloudy sky and a rough path; but these evils have their good parts, and those who really long for peace and happiness will try to find out and extract them, instead of hurrying along resentfully or with forced gaiety.
When any great loss or sudden pain comes unawares upon us we are apt to forget everything else for the time but our intense suffering. The skies may be as blue and the fields as green as ever, but for us they wear a different hue. The brook, whose bubble over the stones was once music to the ear, has now a mournful sound. Nature sympathizes with our moods, smiling with our joys and mourning with our sorrows.

The New French-American Cable Company.

An English contemporary, after expressing the opinion that the stock of the submarine cable companies does not bring so high a price as it should, adds in reference to the Anglo-American Company and its new competitor, the French Cable, now in process of construction: "When we come to deal with the Anglo-American Telegraph Company the prospect is less encouraging. The company has in fourteen years of a rather checkered history brought up in succession the undertakings of the Société du Cable Français and the Direct United States Cable Company. Now it appears destined to make a similar purchase of a new French Transatlantic Telegraph Company, inaugurated by M. Pouyer-Quertier. No doubt this new enterprise will profit by the experience of its predecessors, and will be enabled to avoid the mistakes which they have committed. M. Pouyer-Quertier and his associates will, by laying two cables, also bring to bear against the Anglo-American Company the most formidable competition which it has yet had to sustain. Still, by reducing its rates to one shilling, or say ninepence, per word, the Anglo-American Company must render the efforts of the Pouyer-Quertier Company almost, if not altogether, profitless; and after a time these French intruders upon the domain of the Anglo-American Company will, in all probability, be disposed to follow the example of the Société du Cable Français. If they do so, the position of the Anglo-American Company will, after all, be strengthened, as it may obtain possession of the two new cables at what store-keepers occasionally term "an alarming sacrifice."

Advertising.

The value of judicious advertising was never more apparent than at the present time. Purchasers are on the lookout for good instruments and supplies at low prices, and very naturally conclude that the firms who exhibit their enterprise by liberal advertising are the ones most likely to furnish the best article for the least money. We have always noticed that the men who complain of dull trade are generally the ones who have felt advertising to be a useless expense, and concluded to get along without it for a time. While it may be, and probably is, impossible to trace the exact results produced by each distinct advertisement, it is undeniable that the concern which expects to do business without using the columns of the leading journals in their line, will soon find themselves left far in the background by their more energetic and progressive neighbors. The writer some time since, in conversation with the advertising manager of one of the largest firms in the United States—a firm whose name is almost a household word, and whose advertisements appear regularly week in and week out, year after year in the principal journals of the country—said to him: "You have advertised so long, and are so well known everywhere, that one would think you could stop advertising for a time, and save what must be an immense expense." Business men who don't believe in printer's ink will do well to note his reply. Said he: "Possibly you are right; and no doubt our gain from a complete suspension of advertising would be great for a time, but it is an experiment that we should not dare to try. Our present system has been carefully tested, and though our expenses for advertising are very heavy, we are entirely satisfied with the results."

New Publications.

The Little Gem and Kindergarten is the name of a bright sixteen-page magazine for boys and girls, published monthly by E. B. Grannis, at No. 22 Beekman Street, New York. The September number contains several handsome wood-cut engravings, and much interesting reading matter. *The Gem* would prove a very acceptable, and certainly a most beneficial, present for a boy or girl. Its object is to present the subjects treated of in the most attracting and interesting light to the young mind; avoiding dryness and severity

on the one hand, and the impurity and frivolity of popular literature on the other. The subscription price is \$1 a year.

Harriet P. Fowler, of Danvers, Mass., has written, and M. L. Holbrook & Co., of New York, published, a seventy-nine-page treatise on "Vegetarianism the Radical Cure for Intemperance," in which will be found much food for reflection. The author advocates the more general use of vegetables, fruits, and cereals, in preference to flesh meat, especially in the case of persons given to the intemperate use of alcoholic drink, and quotes several eminent authorities in support of the position she takes. The book also contains many valuable tables, showing the relative nutrition of several articles of diet, and demonstrating that beans, peas, lentils, cocoa, chocolate, and eggs are all excellent substitutes for meat.

We have received the first eight numbers of Mr. John Russell Young's "Around the World with General Grant," now being published in parts by the Subscription Book Department of The American News Company, 21 Park Place, New York. When completed this work will consist of twenty parts, each of sixty-four pages, with two handsome full-page wood-cut engravings to each part, in addition to a fine illustration on every alternate page throughout the book. The author, who is a well-known journalist, and accompanied General Grant as special correspondent of the New York *Herald*, is fully equal to the task of writing such a book. His style is scholarly, vigorous, and terse, and in addition to a narrative of General Grant's triumphant tour around the world, with the honors showered upon him wherever he went, Mr. Young gives able and fascinating pen-pictures of the different countries visited, which are rendered still more intelligible and attractive by the numerous illustrations, drawn by artists which accompanied the party, and engraved by the foremost of American engravers. Part four contains a superb steel engraving of General Grant, from a portrait taken in Paris. The wood-cuts are remarkably fine, the paper, printing, and typography of the very best, and the publishers do not claim too much when they call it "the most complete and elegantly illustrated book of travels ever produced." It is sold only by canvassers, in parts, at 50 cents each. Full information in regard to the book can be obtained by addressing the publishers.

The Telephone Exchange System in England.

For some time I have had a Post Office "private wire," with the Wheatstone A B C instruments attached, between my two establishments in this town. Last year I hired for three months a complete set of Bell's telephonic apparatus, and used it instead of the A B C instruments. The advantages proved so great that for business purposes one is astonished that the old fashioned A B C is not at once superseded. The difference is this—a conversation in one case is actually spelt through very deliberately by the two parties in communication; in the other, it is spoken as rapidly as you wish to speak the words. Not liking to go back to the use of the A B C, I applied to the Post Office to be allowed to have two telephones supplied in lieu of the Wheatstones, but the Department declined, saying they were prepared to supply telephones in addition to the instruments at an increased rental of £11 per annum. This I could not afford, nor was it what was wanted, and I again applied for a readjustment of their contract whereby I could hire the use of the line wire only for a certain term and supply my own telephones. This also was refused, and I have therefore no alternative but to continue the use of an instrument which for quick communication is far behind the telephone. May not this account in some way for the slowness shown in adopting the telephone, and to the difficulty there would be in the establishment of any system similar to the American one, as many firms are already bound to the use of the Wheatstone for terms probably varying from two to ten years? Could not, however, the telegraphic department meet those who wish to use the telephone, so that they might do so without actual loss to the revenue or themselves, but to the great advantage of many who, having practically proved its superiority, are ready to adopt it?—*R. P., in London Times.*

English Post-Office Telegraphs.

The annual report of the Postmaster-General for the financial year ended 31st March, 1879, has just been presented to Parliament, and shows a satisfactory rate of progress in most branches of post-office work. As regards the Telegraph Department, it is satisfactory to find that, notwithstanding the depression in trade, there is an increase in the number of messages over the preceding year, though only to the extent of 317,617. The total number of messages forwarded was 24,459,613, and of delivered 22,792,000. Nearly 286 millions of words of news were delivered in the course of the year to newspapers, clubs, etc. The total number of telegraph offices open on the 1st of March was 3,853, in addition to 1,401 railway stations. Several improvements have been introduced in the apparatus, and the adoption of the quadruplex apparatus, by means of which one wire is made capable of simultaneously conveying four streams of messages—two in each direction—has added another to the fast speed instruments in use by the department.

The process of superseding overhouse by underground process in London and other large towns is being continued, and the private wire business—more affected than any other by the state of trade—shows a satisfactory increase. Most of the claims by the railway companies have been disposed of or are in a fair way of settlement, and Lord John Manners hopes to shortly close the telegraph capital account, the payments on which amounted on the 31st of March, 1879, to £10,120,075.

The true financial results of the telegraph business of the year will be exhibited in the profit and loss accounts to be presented shortly to Parliament; but the gross earnings of the telegraph service in the year ended the 31st of March, 1879, amounted to £1,346,892, as compared with £1,338,542, the amount of the gross earnings in the previous financial year, the increase being £13,350. The expenditure for the same period was £1,089,000, against £1,164,000 in the preceding year, being a decrease of £85,000. The decrease, however, was chiefly due to fluctuation of some of the charges, and not altogether to actual decrease of expenditures.—*Electrician.*

Platinum in the United States.

Notice was taken some time since of Mr. Edison's circular letter of inquiry with regard to the possible occurrence of platinum in various parts of the country. Mr. Edison informs us that, so far, he has received some three thousand replies. Instead of being an extremely rare metal, as hitherto supposed, platinum proves to be widely distributed, and to occur in considerable abundance.

Before Mr. Edison took the matter in hand platinum had been found in the United States in but two or three places—in California and in North Carolina—and in these places it occurred but sparingly. It is now found in Idaho, Dakota, Washington Territory, Oregon, California, Colorado, Arizona, New Mexico, and also in British Columbia.

It is found where gold occurs, and is a frequent residual of gold mining, especially placer mining. Mr. Edison thinks he can get 3,000 lbs. a year from Chinese miners in one locality. One gravel heap is mentioned from which a million ounces of platinum are expected. Hitherto the product of the entire world would not suffice to supply electric lamps for New York city. Now Mr. Edison believes that our gold mines will supply more than will be required. The possible uses of this metal in the arts, however, are so numerous that there is no danger of an over-supply.

In addition to platinum Mr. Edison finds, among the large number of samples received daily, many other valuable metals and minerals, so that his researches in this direction are likely to result in increasing greatly the resources of our country in respect to the rarer and more costly minerals and metals.—*Scientific American.*

A telegraph station has lately been established at the Ryffel Hotel, under the Ryffelhorn, in the canton of Valais, Switzerland. It is about 8,500 feet above the level of the sea, and is the highest telegraph station in Europe. A Swiss paper has claimed for it the pre-eminence of being the highest in the world. But this is not the case, for the station on Pike's Peak, Col., in the Rocky Mountains, is 14,000 feet above the sea level, and therefore something higher than that at the Ryffel Hotel.—*Electrician.*

Albany, N. Y., and Vicinity.

Mr. Chas. A. Orr, for the past five years signal operator at Dudley Observatory, has resigned for the purpose of returning to his home in Columbus, Ohio. Mr. Geo. A. Smith, from North Carolina, fills the vacancy. Mr. C. H. Sewall, of the American Dist. and Bell Telephone Co., has resigned for the purpose of accepting a position with the American Union in Boston. The resignation has not yet been accepted by the former company. Mr. Kearney, a grocer on the corner of Canal and North Pearl Streets, has been arrested on a charge of cutting the wires of the Commercial Telephone Co., which are strung in front of his property. The case will come up in court on Friday next. The unsightly logs which this company have erected through our streets are certainly enough to provoke the property owners to rash acts of some kind. The day of the State Convention at Saratoga, and during the transmission of Senator Conkling's speech, the wires became suddenly mixed, and communication was almost entirely stopped for some time. Subsequently the lineman found the trouble at the Mohawk River bridge in Cohoes, where some one, out of spite for the W. U., or from pure mischief, had crossed the wires with a long piece of common wire, and, not satisfied with that, fastened a weight to the piece and threw it into the river, thereby making a ground as well. From the fact that the American Union were open in Saratoga that day, we have heard it remarked that they might have been the instigators of this piece of rascality. We think such remarks not only a great injustice, but absurd. We believe the American Union will never resort to such tricks to obtain business, but get it by honorable competition. Mr. H. V. Suelley, of Albany, and Mr. S. W. Rankin, of Troy, partook of the Convention "roast" at Saratoga. X. Y. Z.

Electricity in Morning Glories.

A Lafayette, Ind., man accidentally made a most singular discovery respecting the electrical influence of the ordinary morning glory vines. Seated near the lattice work, over which the vine was trained, his attention was attracted to a single branch tipped with a growing line extending straight out from the rest, and speculated within himself whether the tiny hairs with which the stem was clothed were not placed there for the purpose of conducting the electric fluid of the atmosphere to the plant. In order to continue his investigation, he approached his finger within about half an inch of it, and was amazed to observe a slight, almost imperceptible, yet unmistakable motion of the stem. As he pushed his finger a little nearer the stem trembled very visibly, and was seemingly attracted and repelled from him. The hairs which he noticed before did not move, but remained erect. There was no wind at the time, and the motion was purely an induced one. After this interesting experiment he placed his finger within a short distance of the growing bud and slowly moved it in a circular direction. The stem followed the motion until it was bent in the form of the letter C, and when the finger was withdrawn instantly regained its former straight position. The last experiment was witnessed by several persons, all of whom tried it, with varying success.

A Telegrapher as Candidate for Governor.

Mr. Alonzo B. Cornell, a Director of the Western Union Telegraph Company, and a member of the Executive Committee, has been nominated as Republican candidate for Governor of the State of New York. Mr. Cornell, who will be 48 years of age in January, has been connected with the telegraph business in various capacities since his boyhood. His father, Ezra Cornell, with others, built one of the first long telegraph lines erected in this country—along the line of the Erie Railway. The father and son personally labored with their workmen in cutting telegraph poles in the woods along the line of the Erie Railway. After the completion of the telegraph line, young Alonzo entered the service of the telegraph company, and became a practical operator. He became so proficient in the art, and his executive abilities were so apparent, that he was put in charge of the office at Cleveland (in 1848) when the line was extended through Ohio. In that po-

sition Mr. Cornell had charge of the Western lines of the company and of the organization of new lines. All these lines were finally consolidated by the Western Union Company. From 1855 to 1858 he was manager of the principal office in this city. Mr. Cornell was at one time a vice-president of the Western Union. Hon. E. D. Morgan, another prominent Western Union director, and also a member of the Executive Committee, is an ex-Governor of the State.

Another Suit Against the Western Union.

A motion was made before Judge Westbrook in this city, September 4th, for leave to amend the summons and complaint in the suit brought by Mrs. Marcia B. O'Reilly against the Western Union Telegraph Company and Messrs. Norvin Green and George L. Douglass. This suit was first commenced two years ago. The plaintiff alleges that she is the owner of 760 shares of the stock of the People's Telegraph Company, whose line extended from Wheeling to New Orleans, and which was consolidated with the New Orleans and Ohio Telegraph Company in 1853, the consolidated companies being named the Southwestern Telegraph Company; this company leased part of its line in 1854 to Messrs. Green, Douglass and others for fifteen years. The plaintiff charges that in the year 1865 Messrs. Green, Douglass and others entered into negotiations with the Western Union and the American Telegraph Company to transfer to the Western Union Company the property of the People's and the New Orleans and Ohio Telegraph companies; that Messrs. Green and Douglass, acting in the interests of the Western Union Company, obtained control of the American Telegraph Company by getting possession of \$1,000,000 of its stock, and brought about a combination with the Southwestern Company; that this combination lasted only a few months, when the same parties sold out the two latter companies to the Western Union Company; that these transfers were made by Messrs. Green, Douglass, and Reid, in opposition to the interest of the stockholders of the consolidated companies, and for their own benefit, and that they are bound to account to the New Orleans and Ohio Telegraph Company for the profits.

The plaintiff asks that she be declared owner of 760 shares of the People's Telegraph Company, and be entitled to receive her proportion of the stock provided for by the consolidation of this company with the New Orleans and Ohio Telegraph Company; that the lease to Messrs. Green, Douglass and others be set aside as fraudulent, and that a receiver of the same be appointed, and that Douglass and Green be required to account to the receiver for all moneys received by them under the lease, and for any consideration they may have received for the transfer of that company's property, and that the Western Union Company be enjoined from using the consolidated lines. The motion for leave to amend the summons and complaint by inserting names of certain parties and corporations was granted by Judge Westbrook.

Why Cornell Should Be Rejected.

He is a director, and has been for years, in that wicked monopoly, the Western Union Telegraph Company. He sits on one side of the table and W. H. Vanderbilt, a little higher up, sits on the other side. A. B. C. always seconds the motion of W. H. V. They are birds of a feather—hawks, we should say—who believe in plucking the public. If Vanderbilt's heel is cruel—and heartless enough it is—Cornell's is as viciously oppressive. We feel called upon to warn the merchants and farmers of the State of New York, that these two men are exactly alike in opposing the public good for their individual enrichment. The Western Union Telegraph—that is, Cornell and Vanderbilt—two or three months ago added 12 per cent. more of water to their stock (already trebled and quadrupled), and upon this fraudulent paper they are forcing from the people full legal interest. Fools are they who look to Cornell of the Western Union to regulate and check Vanderbilt of the New York Central. As the one takes four where he is entitled only to one, so does the other. This State wants as Governor a man who

will assist the people in tearing to pieces the crooked and oppressive management of corporations like the Western Union and the New York Central. The last man in the State (Conkling excepted) who will heartily engage in this most necessary work is the Republican nominee for Governor.—N. Y. Witness.

Stock Speculation and Lottery Tickets.

We are often asked whether certain firms in this city, advertising themselves as bankers and brokers, are responsible. They send out circulars representing that there are immense fortunes to be made by investing in stocks, and, certainly, tell a very plausible story. We hope, however, that few of our readers will be so foolish as to have anything to do with them. Stock speculation has shipwrecked many a promising career. There is nothing to be made at it, except by men like Gould, Vanderbilt, and the like, who can command unlimited means; and in nearly every case it ends in the victim's "borrowing" his employer's money, expecting to be able, at some future time, to replace it. Not being able to do this, exposure and disgrace follow, and the man's reputation is not unfrequently forever blasted. Don't have anything to do with these so-called bankers and brokers. You cannot possibly do business with them and not come out the loser. All they want is to fleece you out of your money. Occasionally they will send you a check for a small amount, but this is only to lead you on to invest still larger sums, and when they think they have got all they can out of you, they will drop you for a fresh victim.

Lotteries come under the same category. No man ever yet made any money by investing in lottery tickets. Recently a man appeared in a neighboring city displaying a large roll of bills, and stating that he had drawn the capital prize in a particular lottery. It turned out, however, that he was in the employ of the lottery managers, and, of course, had drawn no prize of any kind. It is known that nearly every one of these drawings are the most barefaced swindles; in many not even the semblance of a drawing taking place. A victim recently wrote to the *Sun*, of this city, giving his experience as a ticket-buyer. It is as follows:

	Invested.	Returns.
June, 1878.....	\$2	\$0
July, 1878.....	50	0
August, 1878.....	12	0
September, 1878.....	10	0
October, 1878.....	10	0
January, 1879.....	5	0
February, 1879.....	8	0
March, 1879.....	12	0
April, 1879.....	25	0
May, 1879.....	17	5
Total.....	\$151	\$5

"The above are the exact figures in my case," he adds. "I presume I am in the same boat with many others. Having invested \$150, I keep saying to myself: 'Keep on till you get your money back, then—stop!'"

He who strives after a long and pleasant term of life must seek to attain continual equanimity, and carefully to avoid everything which too violently taxes his feelings. Nothing more quickly consumes the vigor of life than the violence of the emotions of the mind. We know that anxiety and care can destroy the healthiest body: we know that fright and fear, yes, excess of joy, become deadly. They who are naturally cool and of a quiet turn of mind, upon whom nothing can make too powerful an impression, who are not wont to be excited either by great sorrow or great joy, have the best chance of living long and happy after their manner. Preserve, therefore, under all circumstances, counsel the *Sanitarian*, a composure of mind which no happiness, no misfortune, can too much disturb. Love nothing too violently; hate nothing too passionately; fear nothing too strongly.

Echoes from 197 and City Items.

Supt. Weller was recently presented with a seven pound boy.

47,000 messages are handled daily in the main office. Press report is also heavy.

We have received a letter from Mr. J. R. Dennis, late of the Mining Exchange office. He was then at San Jose, after having spent a month "doing" the Pacific Coast.

Willie Cunningham, formerly mail boy at 197, and a great favorite with everybody in the building, who returned from Europe about a month ago, very much worse in health than when he went away, died on Monday morning, September 15th.

We are pleased to notice, from a paragraph in the Ogden, Utah, *Dispatch* of September 1st, that Mr. H. M. Bennett, formerly of 197, and lately in the employ of the Western Union at Ogden, has been appointed Assistant District Attorney for the third district of Idaho. Mr. Bennett is one of the men who recently resigned at Ogden rather than accept a reduction from \$90 a month to \$75. The *Dispatch* says that Mr. Bennett will in future be located at Oxford.

Of Dr. Wright, whose advertisement appears in another column of this paper, Mr. Phillips, one of his references, says: "Dr. Wright was my family physician during my residence in Jersey City. I regard him as one of the most thorough, conscientious, and studious physicians I have ever known. I was the direct means of several persons becoming Dr. Wright's patients, and without exception I have never known an instance of his failure to make cases undertaken by him yield to treatment. I feel sure that no person ever sought Dr. Wright's advice without being promptly and permanently benefited thereby." Dr. Wright gives special attention to writers' cramp and telegraphers' paralysis.

Dashes Here and There.

Akron, Ohio, has in process of construction a telephone exchange system, similar to those in use in other cities, to be owned and operated by a stock company.

The London *Times* has extended the use of the Rapiëff electric light to its composing room. The Rapiëff light is also to be introduced into one of the Russian lighthouses.

An electric target—that is, a target which, by means of electricity, shows instantaneously upon another target set up at the firing station the exact spot where a bullet strikes, and thus does away with the necessity of employing a marker to signal the result of each shot—has been lately perfected, after years of labor, by a Swiss locksmith.

It is said that an enterprising tobacco manufacturer in England recently did a smart thing. He had the electric light put up in his factory, had it well puffed in the daily papers as likely to supersede gas, invited people to see it—and bought gas shares largely at a low price! The electric light was not a success, but the gas shares were.

A remarkable freak of lightning is recorded in a French newspaper. A farm laborer, running for shelter, was suddenly thrown to the ground, the fork he carried on his shoulder being wrenched from his grasp, and carried through the air to a distance of fifty or sixty yards. The prongs were bent and twisted with well-nigh mathematical accuracy into the shape of corkscrews, the steel being burnt, and formed, on its exterior surface, into small laminae which emitted a slightly sulphurous odor. The laborer escaped without injury.

The *Insurance World* thinks our present complicated system of fire alarm telegraph should be substituted by the much more desirable system of telephonic communication. The advantages, like an axiom, are so self-evident as not to admit of any elaborate demonstration. One of the special features is that it will enable the person sending in the alarm to affix the exact location of the fire, and thus obviate the necessity of the firemen hunting for the exact point in the district at which their services are needed.

A French lass was at school, and during a thunderstorm the electric fluid fell close to her. For a moment she seemed to be suffocating, but this sensation soon passed off into a fit of hiccups. These became so distressing that after three days her

mother took her to the children's hospital in Paris for advice. The surgeon ordered her to be taken to the operating theatre, where, on seeing the medical man standing at a table covered with some awful-looking instruments, and surrounded by a number of assistants in white aprons, the child became so terrified that she forgot her hiccups, and was thus cured.

The proposal of the Institute of International Law, now in session at Brussels, that all countries should regard the destruction of submarine telegraph cables as an offense against the law of nations, is not likely to find favor, in view of the important part which the telegraph plays in modern warfare. In South America cable communication has been interrupted during the present conflict, and in all recent wars belligerents have unhesitatingly destroyed the telegraph wires. The most that can be expected is a general agreement that belligerents shall not destroy the ocean cables of neutral nations.—*N. Y. Tribune*.

One of the spouts at a mill in Minneapolis, Minn., has recently been fitted up with magnets, for the purpose of catching pieces of wire and other metallic substances in the wheat. Out of a thousand bushels run through on one occasion there were found adhering to them seventy-three pieces of wire and seventy-one pieces of other metallic substances, consisting of three tacks, two ends of cut nails, one end of horseshoe nail, and sixty-five pieces, small spawls of wrought iron, sheet iron, and cast iron, varying in size from $\frac{1}{4}$ -inch to $\frac{1}{2}$ -inch, in irregular shapes, many of them appearing to be scales or fragments broken from badly worn machinery.

The persistent search for new gums allied to gutta-percha and rubber has been rewarded by a new gum which has been named "Belata." It is won from the "bully tree," a native of the Amazon region, and in appearance it is said to closely resemble gutta-percha, though it is tougher and more flexible. It is tasteless, and has an agreeable odor when warmed. It may be joined piece to piece at 120 Fahrenheit, and melts at 270 Fahrenheit; is soluble in cold benzine and carbon disulphide, and in warm turpentine. It may be strongly electrified by friction, and is a better insulator than gutta-percha. It is thought that the gum will find many uses in the arts.

PERSONALS.

Mr. M. F. Allen is to be manager of the American Union office to be opened at North Ferrisburgh, Vt.

Mr. E. C. Jones, manager of the Mt. Vernon, Ohio, Western Union office, is absent on a visit to relatives in Chicago.

C. L. Gist, formerly operator in the Atlantic and Great Western office at Youngstown, O., is now employed as ticket agent in the Ashtabula and Pittsburgh office in that city, vice Clegg, resigned.

William E. Carrolls, formerly assistant train dispatcher of the Lake Shore and Michigan Southern at Buffalo, has been appointed chief train dispatcher of the Canada and Southern railroad, with headquarters at St. Thomas, Ontario.

The annual meeting of the Western Associated Press was held at Grand Haven, Mich., Sept. 3, with a large attendance of members. The election for directors resulted as follows: Richard Smith, of Cincinnati; W. N. Haldeman, of Louisville; Joseph Mendill, of Chicago; A. J. Kellar, of Memphis; D. M. Houser, of St. Louis; W. W. Armstrong, of Cleveland, and J. F. Mack, of Sandusky. The Board organized by electing the following officers: President, Murat Halstead; vice-president, E. B. Martindale; secretary, H. E. Baker.

Mr. J. R. Bailey, who has for several years held the position of manager of the Western Union Telegraph office in this city, has resigned his place here and been assigned to Petaluma, which office he took charge of this week. Mr. Bailey has always been held in the highest esteem by many who transacted business at the office, while those who knew him intimately prized his friendship very highly. While we regret that he should prefer Petaluma to San Jose, we wish he may find his new home and surroundings all that he could desire. Mr. H. B. Higbee, who has been connected with the company here for some time, succeeds Mr. Bailey in its management.—*San Jose (Cal.) Mercury*.

We can heartily indorse the compliment paid Mr. Davis in the following item from the Burlington (Vt.) *Free Press*: "Mr. Frank M. Davis, for two years past day operator in the Western Union telegraph office in this city, has accepted the position of manager of the office here of the American Union, the new opposition telegraph company, and will assume the duties of his new position on the first of October next, when the wires will be completed between Montreal and New York. Mr. Davis is a most efficient and trustworthy operator, and a pleasant, enterprising and popular young man; and the new company is to be congratulated on securing so competent a manager for their Burlington office. He has a host of friends who will hear with pleasure of his advancement and wish him every success."

An examination of the accounts of Frank Ferris, agent and operator of the Milwaukee, Lake Shore and Western Railroad at New London, Wis., revealed the fact that Mr. Ferris was a defaulter to the company to the amount of three hundred and thirty dollars. Ferris is said to be a first-class beat. He has left New London with a large number of other debts unpaid, promising to settle them all when he returned from Milwaukee, but there is no sign so far of his returning. While his accounts were being checked off, the news rapidly spread, and a remonstrance was circulated for signatures, it being represented that his removal was the underhanded work of a certain clique; that his accounts were O. K.; that he had only been a trifle negligent, and that such a document would prove invaluable to him in securing a position elsewhere. Under such representations a great many signatures were obtained.

MILWAUKEE.—J. M. Hogan called in to see the boys the other day. He is always welcome. Arthur Allen, formerly a Milwaukee boy, now at Gifford's summer resort, says he increased twenty pounds in weight since he has been there. Mr. Bross, manager at Madison, Wis., has gone East on a vacation. We all wish him a pleasant trip. Mr. Tice, formerly of Appleton, is taking night reports there, while Mr. Parker does the manager's work. Fred Anderson, of St. Paul, called in on his way to Chicago to see us the other day. Nels. Collette, formerly day operator here, has been transferred to the St. Paul duplex at night, while Mr. Fitzgerald, of that line, takes his position days. Ed Delano is now working for the Northwestern, sending night report to St. Paul. E. J. Peabody, manager of the American District Telegraph Company, has resigned. He will be succeeded by Chas. J. Warth, formerly night manager. M. W. Grange, who left the business to accept a position with Chandler, Brown & Co., commission merchants, this city, is working extra nights for the Western Union. Latest reports from the Bell Telephone Company show a large increase in business. It is under the management in this city of H. C. Haskins as superintendent, and F. C. Green as night manager. By receiving the sad news of his mother's illness, W. H. Kelsey, chief operator Northwestern Telegraph Co., this city, has been called to Erie, Pa. The boys all sympathize with him in his trouble. N. M. IN.

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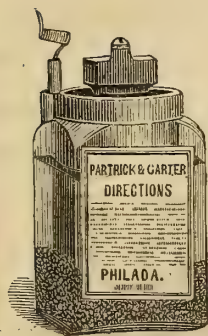
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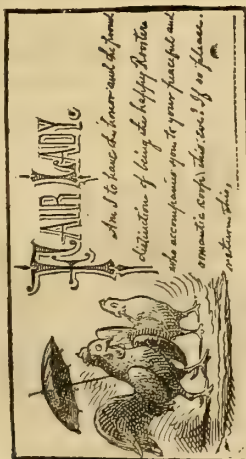
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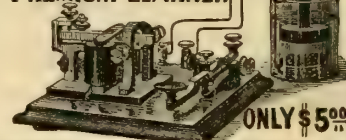
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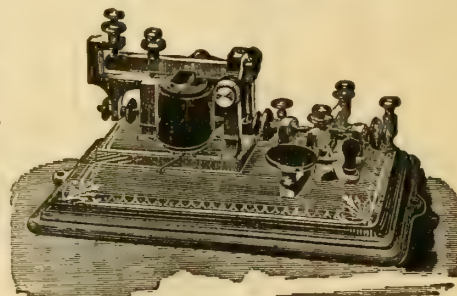
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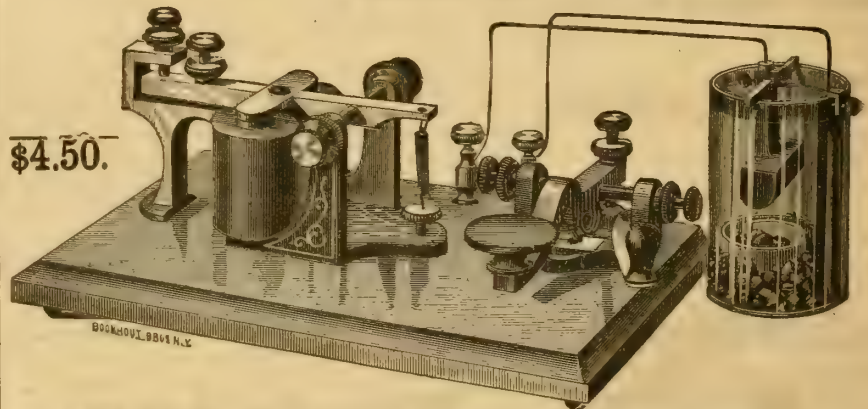
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A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY

October 1st, 1879.

Volume X.

Whole No. 135.

Over the Wires.

I hear a faint, low singing,
Like the sound of distant choirs;
'Tis a message gleefully winging
Over the telegraph wires.
And what are the glad wires humming,
As they stretch in the sunlight away?
"I am coming, coming, coming—
I am coming home to-day!"

And now I hear a sobbing,
Like some soul sitting alone,
With a heart that is wearily throbbing,
And lips that can only moan.
Oh! what are the sad wires sighing,
As they reach through the darkness of night?
"He is dying, dying, dying—
Come on the wings of light!"

The titillation of laughter
Next falls upon my ear,
And a burst of mad mirth after,
Like the sound of a distant cheer.
And what is the gleeful story,
That the round wires spread afar?
"Our Nine is crowned with glory—
Hip, hip, hip, hurrah!"

Oh! what are the wires relating,
Morning, and noon, and night?
"The market is fluctuating!"
"Reports of the Senate fight!"
"Cashier S—a defaulter!"
"Arrest a man named Brown!"
"Jones died to-day by the halter!"
"Wheat went suddenly down!"
"Dead!" "Born!" "Going!" "Coming!"
"Deluge!" and "Drought!" and "Fires!"
Singing, and sobbing, and humming
Over the telegraph wires.

—Ella Wheeler.

Secret of the Great Telegraph War.

Those of our religious craftsmen, and, indeed, all good Christians in general, who from conscientious motives have steadfastly refused to aid the telegraph companies in breaking the Sabbath by servile labor, must be highly edified by the sort of reading now being furnished by the daily press concerning the ferocious nature of the great "telegraph war." But a careful study of the tactics employed by the "rival" companies betrays at once the hollow nature of the affair, and shows plainly that there is some dark scheme behind. We read that at Buffalo, Rochester, and Bortontown, where riots have occurred, the faithful employes have been the only sufferers. At Buffalo recently, as THE OPERATOR told us last issue, one of the companies "kept a man on a high pole (65 feet high) all day to prevent its being cut down," and that the other company "had a man at the foot with a large axe to fell it." At the same place "a Western Union man (doubtless some enthusiastic superintendent) called an American Union man an insulting name." Now, the great force of an insulting name, when judiciously applied, lies generally in its obvious truth, and no doubt in this particular it was a correct diagnosis of the American Union man's case; but, nevertheless, the offender was promptly "knocked down," most likely amid the spontaneous roar of numberless admiring officials. We read further that "this was the signal for a general fight, and for a few minutes matters were exceedingly hot. A revolver was drawn, and hatchets, vises, nippers, etc., were freely and dangerously displayed." One unfortunate individual had "his arm cut with a hatchet," and goodness knows what else might

have happened had not the police made a descent upon them and "pulled" the entire mob, including two superintendents and a "line boss."

In justification of these acts the officials of both companies will doubtless argue to prove that good fighting under high official auspices, even if the law prohibits it, has many ancient precedents to recommend it. It is only a few years since the people of two continents went literally mad when the Benicia Boy defeated Tom Sayers at Farnborough, and even the slow-going Italian journals blossomed forth with glowing accounts of "Giovanni Carmelo Heenan." They will cite the facts that the English Parliament adjourned—being without a quorum—on the glorious day that Crib and Belcher fought for the championship; that the Prince Regent stood by the ring side, and that after Tom Spring had defeated Langan he was ridden triumphantly on the four-in-hand of Lord Deerhurst, the noble lord himself handling the ribbons. But it must not be forgotten that telegraphers are a different breed of men from that represented by Arthur Chambers and Billy Edwards. Whatever merit among professional bruisers there may be in fighting, telegraph officials should draw the line of "competition" somewhere, and it is certainly not too much to ask to have it drawn at free fights. To be sure, a fair stand-up fist fight, or even with hard gloves, between two high officials—one from each side—would be immensely popular, and might, by previous agreement, settle definitely the points at issue; but it seems to the limited intellects of mere operators that when telegraphic competition arrives at that stage where it cannot be carried on without hacking and slicing the servants of the opposition with pick-axes and hatchets, it would be better for the leaders to permanently abandon telegraphy and take up the plowshare as a more reliable means of livelihood.

Now, it is well known that both companies are striving to obtain the public business at paying rates—and *paying rates* only. It must, therefore, be obvious to all that both companies are literally trying to "back the same load up hill;" and it certainly stands to reason to infer that to be successful they have only to pull together in the matter of rates—for two decent companies can have all the business they need, with a fair paying rate for both. Admitting, then, that they have nothing to fight about on this score, it must be apparent to all that the fighting has really some secret object not yet publicly explained. Furthermore, the officials on both sides understand perfectly well that this matter must end as all other telegraph fights have ended—that is, in some mutual understanding—and for this reason it would be ridiculous to assert that any sensible body of men would fight first and negotiate afterward, when there is so much to be gained by reversing the order of that procedure. These facts make the telegraph bouffe theory stand out in greater relief, and it is only fair to reassert the suspicion that the frantic fighting has some dark object in view other than competition as between each other.

The only acceptable theory left, then, is that "the war" is a last desperate effort on the part of the telegraph companies to get rid of their high-priced servants, who are to be succeeded by forlorn creatures hired at panic prices. It is a well-known scientific fact that the great bane of the lives of telegraph managers has always been the High-priced Man—a being who is looked upon as a necessary evil. No one not intimately conversant with the inner workings of a "giant monopoly" can understand the amount of trouble which the High-priced Man has brought to miserly officials; but so far, owing to his wonderful vitality, it has been considered impossible to abolish him. Though frequently "reduced" and "graded" in the most approved economical style, the High-priced Man, after a season of temporary obscurity, has always shown a spiteful maliciousness in subsequently reappearing on the company's pay-roll at a much higher salary. The explanation is that he has ever been so attentive to duty, so punctual, and so frugal in using supplies, that his life has proved "pure as snow-fields where his footsteps left a mark, but no stain"—in short, that the

High-priced Man has made himself so utterly indispensable to the proper working of a first-class company, that the proverbial Economical Official has always been subsequently compelled to restore his pay to the usual high figures. It was supposed for a long time that the telegraph companies had given up the attempt to subjugate the High-priced Man; but it is now clear—to me, at least—that the Economical Official, having exhausted his sliding scales, grades, and other half decent experiments, has broken out afresh, abandoned any feeling of shame and moral restraint which he may have originally possessed, and set his expensive men to fighting, in the hope thereby of reducing expenses, simply by having the men exterminate each other.

A brief review of the history of our profession may aid the less observant members of our craft in understanding the present desperate effort of the Economical Official to extinguish the High-priced Man. A favorite device to attain this object some years ago was for the company to flatly refuse to deliver up certain messages to Congress, and then, when the usual subpoena came, to select an expensive manager and put him forth as the unhappy victim. This poor fellow would be bullly-ragged by a particularly abusive Congressional committee; tried for prevarication; sentenced for contempt; officially held up to public scorn; chalked down in the records of the Congress of his country as a contumacious witness, and duly sent to the Capitol jail, where he would be put to shoveling in coal for the Congressional furnaces, kalsomining the vaults, or some other occupation less agreeable than drawing big pay from a telegraph company. As the veteran High-priced Man invariably returned from the bastille in a week or two, and resumed his place on the pay-roll at an advanced rate, the Economical Official abandoned that scheme as a means of killing him off. The experiments of sending him in times of peace to notorious fever districts, and up into cloudland in calico balloons in war time, had a like result, and the High-priced Man still came back in due time and survived, at steadily increasing rates. The Economical Official then devised various contrivances for sending messages faster and faster, hoping thus to drive the High-priced Man to distraction, or somewhere else; but he only smiled complacently as he received ninety messages an hour from the new machine, and coolly turned out his copy

"In such a hand as when a field of corn
Bows all its ears before the roaring East,"

and came up smiling for his salary every pay-day, with the flush of triumph and the dew of praise still fresh upon him—and he even declined to accept trade dollars. The next organized scheme to crush him was the "Russian Extension." It will be remembered that none but the very highest priced men were sent out on this expedition, and when the Arctic winter, with the thermometer at 100 degrees below the freezing point, failed to kill off a single \$125 man, the company abandoned the expedition and refused the men transportation to their homes. Notwithstanding this master-stroke of economy, the indomitable High-priced Man arrived back safely, and his name soon blossomed forth afresh on the company's pay roll at higher rates than ever. It was about this time—the Economical Official being in utter despair—that he concocted the nefarious plan of secretly fmailing free to each operator a deadly copy of the *Journal of the Telegraph*. Some of the cheaper men died under this infliction, but the persistency with which the genuine High-priced Man read the seven-column "scientific" articles and survived, demonstrated his miraculous tenacity of life, and threw the Economical Official into a high fever. No further attempt was made until the year 1869, when the Franklin Company attempted to deal heroically with the high-salary question by abolishing salaries altogether—an arrangement which was sufficient to satisfy the most exacting Economical Official. It is a matter of legal record that in Washington, D. C., in that year, one Cromwell—an operator who had not flung away ambition—growing weary of toiling for nothing, sued the company for his salary. The giant intellect of that concern

put in "a plea of abatement" on the quibble that the company had never been chartered in the District of Columbia, and, therefore, could not be sued there; and by a continuance of this grand scheme the Franklin Company reduced its expenditures considerably.

This original plan did not, however, work for any length of time, since the operators in that year resigned in a body. Efforts looking to the same end outside of America were equally fruitless. A feeble attempt was made in England to annihilate the High-priced Man, but the promptitude with which one of the humble electricians—Charles Wheatstone—retaliated by inventing that musical instrument of torture, the concertina, and the uncompromising manner in which all the operators took to playing upon it "Britons never shall be slaves," threw the economically inclined officials into the deepest consternation, and the attempt was never revived in that country. In France it was tried in a rather more systematic manner, but the result was, like all the rest, ignominious failure. It was in 1871, in Paris, while the Germans were bombarding that city, that the case of a high-priced operator, who for twenty-three long years had persistently refused to die or resign, was reported by the Economical Official to the military governor, Gen. Trochu. That great martial and financial strategist at once ordered the obstreperous operator to duty on the top of the Arc de Triomphe, where, amid a steady down-pour of iron hail, he was compelled to establish and maintain a signal station, by which he materially aided in the gallant defence of that city. For many weeks the French Economical Official anxiously watched (from the security of a neighboring cellar) for the result of this experiment in reducing salaries; but the uncompromising veteran did his patriotic work so thoroughly and so fearlessly, and came down from the Triumphal Arch with such exasperating promptitude every pay-day to draw his exorbitant salary, that the Economical Official gave up the idea in disgust. Indeed, so complete was the failure in France to abolish the High-priced Man—for he not only reappeared on the French pay-roll at a still higher salary, but the Corps Legislatif voted him a gold medal for his intrepidity—that the futility of all attempts to hire reliable operators at hod-carriers' wages was universally acknowledged, and the war upon the High-priced Man practically ceased.

Carping critics will doubtless now come forward and say that these logical deductions from historical facts are merely nonsensical, and that, if the Economical Official really desired to rid himself of the High-priced Man he would simply scratch his name off the roll, and that would necessarily be the end of it. But I can reply in advance that strict honor forbids such a course, for the High-Priced Man is always found to be one who has stood by his company through thick and thin—in the fires and riots of Boston and Chicago; in the memorable strikes; when his superiors were sick, and he had to do double duty for single pay, or when some virulent scourge was devastating all around him. It will thus be seen that the Economical Official could not sit down upon him very heavily without exhibiting a flagrant disregard of common justice and a sinful forgetfulness of the obligations due to a true "friend in need." This, therefore, is why they are compelled to resort to such hollow subterfuges as a "telegraph war" to effect the abolition of the High-priced Man with something like consistency and honor.

Those who have studied this question have doubtless seen long ago the true drift of this telegraph war; those who have not hitherto understood it will see it now, I hope; but, whether they do or not, they will feel it soon. The man who was lately perched on the top of a 65-foot pole in Buffalo, ostensibly "to prevent its being cut down," was, beyond all reasonable doubt, a shameless operator who has been in receipt of \$100 a month for at least thirteen years, without ever offering to die or resign. The man who stood "at the bottom of the pole with a large axe, to fell it," could be no other than an economical official in disguise; and, had not the

police opportunely interfered, it is morally certain that that official axe would, at one sweep, have cut down that pole and thereby killed the operator on the cross-arm, and reduced the company's expenses by at least \$1,200 per annum. The very fact of the introduction of this heartless system of stationing high-priced operators on the tops of 65-foot poles, standing in dismal sections of the country, betrays the vile intention of the Economical Official. Such base strategy is also bound to succeed, for no operator—not even a vigorous \$125 man—could survive the labor of sitting on an elevated 65-foot pole every night next winter, from 6 P.M. until 7 A.M., and then coming around every day at noon to climb that horrid pole and relieve the day man on the top of it for dinner. Nor does this take into account the time he will be "stuck" on a cold winter morning by the day man failing to relieve him on time.

Thus, after a long struggle, extending over many years, the High-priced Man, whose robust constitution proved superior to rotten balloons, shot and shell, virulent plagues and badly ventilated offices, will at last succumb to intrigue. Even if he should escape the "hatchets, vises, nippers" and disintegrated office furniture wielded by hired prize-fighters, he will be subsequently called upon, by one company or the other, to make an involuntary contribution toward paying the expenses of the war; and, after that, he will be a high-priced man no more.

I have thus examined the two sides to this question, which so deeply interests us all, and have shown there to be two alternatives, viz.: the possibility of a violent and premature demise during the fight, at the hands of a vigorous opposition; and, secondly, official death by salary reduction at the end of the war. The High-priced Man can adopt whichever of the two theories he chooses, for either is against him. It is at least some satisfaction, however, to thus how the Economical Official that we have fathomed the Secrets of the Great Telegraph War. WERNER.

Telephone Exchanges in England.

The remarkable progress of the speaking telephone in America has been, until quite recently, in very striking contrast with its apparent neglect in the United Kingdom. In America, the country of its birth, it has been eagerly adopted, and telephone exchanges are now established in almost every city of consequence throughout all the States. It is estimated that there are now more than 40,000 telephones in use there. Chicago alone numbers over 2,000 subscribers to the far-speaking system which ramifies that busy centre of trade, and the process of introduction is rapidly being extended to minor towns, and even to remote settlements of the West. In the mining camps of Nevada and Colorado a telephone exchange is a sign of civilization, almost as essential as a meeting-house or a bar-room.

Nor are these exchanges confined to the precincts of each city; they actually connect town to town, and thus enable the citizens of one town to converse with those of another, that is, if the distance between be not too great. Telephonic communication has, we understand, been successfully maintained during the middle of the day, when the difficulties were at their height between Philadelphia and New York—a feat which has also been paralleled in England.

On the other hand, although the admirable invention of Professor Bell was received in this country with loud acclaim, and gave rise to a mushroom crop of popular lectures and scientific experiments, it fell quite flat upon the community in a practical sense. The original enthusiasm soon passed away, and a pernicious faith soon got abroad that the instrument was merely an interesting toy, very amusing to a drawing-room full of ladies, or highly ornamental to the physical cabinet of a philosophical dilettante, but utterly unfitted for serious everyday use. That this belief was erroneous is amply demonstrated by the extraordinary success of the telephone in America. The characteristic slowness with which the English elect to throw off old habits and take on new ones,

the prevalent dullness of trade, and, perhaps, a lack of enterprise on the part of those owning the appliance, have also had much to do with the telephonic standstill here. Our Post-Office, unlike that of the German Empire, declined to take up the instrument, and Professor Bell was therefore cast upon his own resources. But he is understood to have been otherwise so hampered and retarded in his efforts to improve and introduce the telephone in England that he was glad to make his escape to America again, where he could work with greater ease and more hope of practical success.

The triumph of the telephone in that country has, however, at length infected England, and telephonic exchanges are now being established in London and other large towns. The Bell Telephone Company have turned their Coleman Street office into a central station for the city; other stations are likely to be opened soon in the metropolis, and other towns, notably Manchester, are arranging to have exchanges. The time appears to be ripe for them, and the city merchants are waking up to the advantages which they offer for expediting their business. Already a considerable number of subscribers have come forward, and the system has got a flourishing start. The terms charged by the Bell Telephone Company from each subscriber are £20 [about \$100]; the annual rental in New York city, for comparison, is \$90 a year.—[Ed. O.P.R.] yearly rental, everything being provided and maintained by the company. The Bell telephones employed as receivers are of the best American make, and a transmitter is used in order to give loud as well as distinct utterance. The exchange switch-board, call-bells, and other connections which have proved so efficient in America are also adopted by that company.

The discovery of the microphone by Professor Hughes undoubtedly reduced the value of Mr. Edison's carbon transmitter, which relied for its efficiency on the electro-magnetic telephone as a receiver, and that inventor, with characteristic pluck, thereupon set himself to perfect his electro-chemical receiver and make it fit to take the place of the electro-magnetic receiver, which was at the best borrowed from Professor Bell or Mr. Elisha Gray. The English public have had many opportunities during the past winter of judging for themselves of his success in this difficult task, and at last a telephonic exchange, on the Edisonian model, has been opened at No. 6 Lombard Street, and a number of subscribers gained.

Mr. Edison employs for his lines slender steel wires electrotyped with copper so as to combine lightness, strength, and conductivity. They are further covered with a slight coating of insulating material, which insures their insulation and durability in the moist, corrosive atmosphere of London. The electro-chemical telephone is "loud speaking;" but, by a simple mechanical contrivance, it is provided that conversation can be carried on without being audible beyond the desired limit. A monthly rental is charged for the use of this system.

Now that the ice is broken, we anticipate that the telephone will be taken up with the customary energy of our countrymen, and we hope soon to see the whole of London, as well as other large cities, divided up into districts, each furnished with its central telephonic station.—*Telegraphic Journal*.

Coney Island revels in electric lights. The big pier has twenty-five of them. Each hotel has a number, and the tall tower has a few. To the ocean traveler these present a brilliant sight at night. Yet there are many ocean travelers who never heard of electric lights, and who are not accustomed to seeing these beacons in New York harbor. A ship coming from Australia cast anchor for the night, her captain being so bewildered by what he thought were half a dozen lighthouses gone crazy that he did not know where to go. A pilot boarded an Italian vessel one night last week, and found captain and crew on their knees praying in terror for protection from what they supposed to be demons dancing along the hitherto unfrequented shore. Coney Island should hide her light under a bushel.

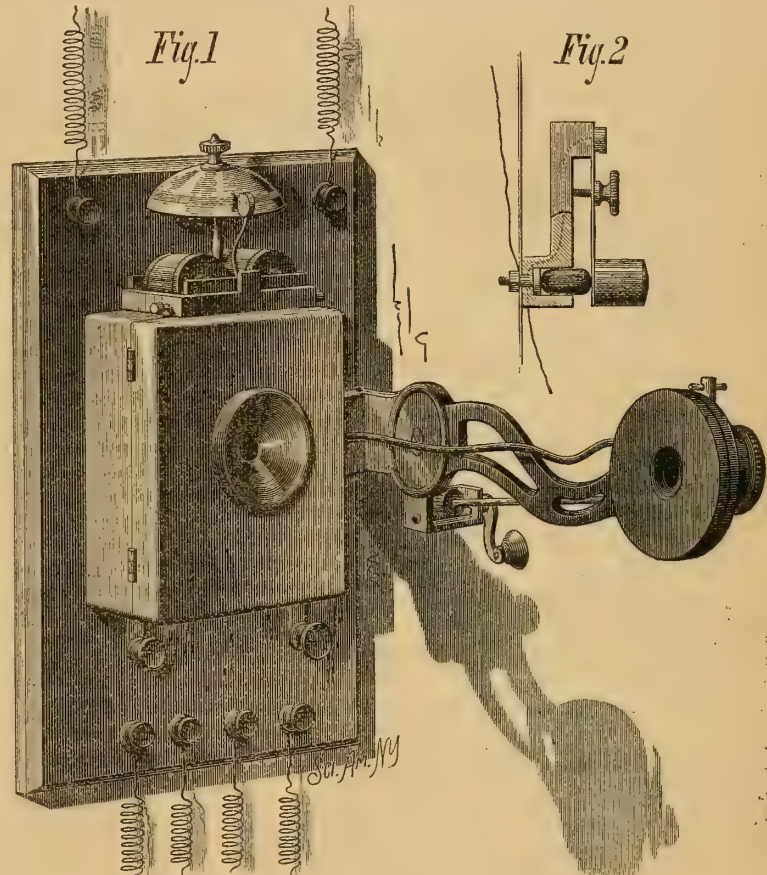
A Voice Without a Tongue.

"Ask Galveston what's the matter," a reporter impatiently said, waiting at 11 o'clock for dispatches, two hours behind time, to the operator who sat loitering by the little telegraph table. "I heard Denison ask him just now," was the careless reply; "they will be along pretty soon." "Ask him how long yet." The obliging operator lifted his arm across the table and laid his hand on the insignificant looking instrument. There was a little shower of ticks as the long, slender and delicate hand moved rapidly over the thing called the key—a pause, then a dozen or two ticks came instantly out of the instrument, treading on each other's coat tails, and the operator, without looking up, said nonchalantly: "He says they will be on hand in ten or fifteen minutes." The operator relapsed into silence, and we look at him with a species of awe and reverence. Here is a young man who talks as familiarly about Denison and Galveston as if they were sitting at his elbow, though they are hundreds of miles away. If a man would talk with a Galvestonian, it would take several weeks to go down on foot, many days on horseback, and sixteen hours tearing along like lightning behind a steam engine, yet this young man gyrates his slender fingers without moving out of his seat and calls Galveston, and Galveston replies before the tones of Waco's call is cold on the wire. How long, O Lord, how long! Ten minutes. As we stand buried in thought over the magic and magician of the century, a volley of clicks break out of the instrument, but the young operator pays no attention. They stop only for a moment, and the machine is rattling away like a galloping horse, silence been broken again and again, but touches no chord in the operator's heart. Dallas or Sherman, or some one else is talking. He knows what they are talking about, what they say, laughs, perhaps, as something comical flies, without wings, over the wire, for operators are a comical set with their jokes and quips and quirks done up in electricity and garnished with hot lightning sauce. Fifteen or twenty minutes pass and the instruments clatter away like a prattling girl, and the operator sits dozing. Then suddenly he wakes up. You nor I couldn't tell any difference in the sound, but that operator knows his sign over the wire as readily as a mother could tell the voice of her pet child among a thousand other voices. He nods with his finger to Galveston and rattles the bones till a dispatch is taken and written and hung on a hook. Just as easy as talking; easier in fact. But now as the dispatches come in one should see the operator in his glory. His hearing is as sharp as a steel needle. It is the pride of his profession to take steadily without a break. He is looked up to with reverence who can keep it up for hours without stopping. An eminent operator on one of the Eastern lines recently being left in the lurch by the illness of an assistant, took twenty-five consecutive hours, and nearly seventeen hours on a stretch. The young operator looks with envy on such feats, and blushes like a school girl when he is forced to break, that is, to stop till he catches up. Then there is always some regular fire and lightning fellow on the lines, who delights in stirring up the young ones, and pours hot bombshells in ceaseless fusillade for them to catch, and chuckles when they burn their fingers. This pride and discipline makes telegraph operators quick as wild cats. But now the dispatches are coming in, galloping over the wire like a regiment of cavalry, and a current of chained lightning is pouring into the operator's ears, darts through the convolutions of the brain, interpreted as it goes along, and passes out through the tip end of the rapidly moving pencil that never tires or stops. Over the wires still comes the galvanic current clattering and scampering like a cavalry scout, now like a stampede of buffaloes, now plattering rain drops, and now the deluge of a shower, but scout or buffalo, or dropping rain or beating sho er, never ceasing or halting or stopping. And the cavalcade of words rolling up from Galveston came a while ago tearing over the great stretches of desert on the Pacific coast, climbed the Rockies, sped over the boundless plains of the west or from across the sea, or from Canada, from

east and north and south and west to fill the great reservoir in New York, which, running over, poured through the wires to New Orleans, Galveston and to Waco, for this is the voice of continents speaking to the young man, who speaks through his pencil to the editor, and he to the compositor, and all to the people before breakfast, of the world's doings of the day before.

Operators are a good set of men, generous, obliging, and affable as any one could expect from boys who work with such a thing as lightning. When business is dull and nothing going over the wires they have three minutes of relaxation, and bits of social chat and fun, like common folks. Bremond tells Sherman the latest *on dit*, and

Waco chaffs Dallas about that girl in sky blue, and Fort Worth puzzles the solemn Galvestonian with a red hot conundrum from the Fort. One of the most striking things about the office is the delicate quickness, the keenness of hearing, and the careless accuracy with which they interpret the sounds which sound all alike to the common ear. They can even tell the operator who is playing on the machine by the nature of his touch and general style. Those who are troubled with ennui could not pass a more interesting hour than is to be spent in a telegraph office, and young ladies could learn a lesson in coquetry by watching the artistic delicacy with which a skillful operator can coquette with hot lightning. *Waco, Tex., Examiner.*



EDISON'S LOUD SPEAKING TELEPHONE.

Mr. Edison's Latest Telephone.

We announced, a few issues ago, that Mr. Edison had invented a loud-speaking telephone, by means of which the voice of a person at the further end of the line could be distinctly heard all over a large room. Mr. E. H. Johnson took fifty of these to England for the purpose of establishing a telephonic exchange similar to those in this country.

Mr. Edison has lately improved the instrument, and the accompanying illustration shows it as at present perfected. From a detailed description of the instrument in the *Scientific American* we extract the following:

The transmitter is contained in the stationary rectangular box; its mouthpiece projects slightly, and the diaphragm, which is of mica, is supported by a metal frame, and springs inside the box cover. This transmitter is quite different from the carbon transmitters now so largely in use in this country, and it will be new to many of our readers; but it is one of Prof. Edison's earliest and best telephones or microphones. It is exceedingly simple, and does not require frequent adjustment, while it is equally as sensitive as existing forms of transmitter. The details of its construction will be understood by Fig. 2. A vulcanite arm is secured to the center of the mica diaphragm by means of a small bolt, which is connected with one pole of the battery by a piece of metallic foil or very thin copper wire. The

head of this bolt is platinum-faced, and sunk deeply in the vulcanite arm, the same cavity containing also a piece of carbon pencil, such as is used for electric candles. The carbon fits the cavity loosely, and is rounded at both ends. Its outer end is pressed by a platinum-faced spring secured to the outer end of the vulcanite arm. The spring carries at its free end, exactly opposite the piece of carbon, a brass weight, and the pressure of the spring upon the carbon is regulated by the small set screw. A wire or piece of copper foil, connecting with the spring, completes an electrical circuit, which includes the primary of an induction coil contained by the rectangular box. The secondary wire of the induction coil is connected with the telephonic line, and a tertiary coil which envelops the secondary is connected with the rubber and chalk cylinder of the receiving instrument. Below the transmitter box are two keys, the right hand one being used for signaling, the left hand one for completing the tertiary circuit when a message is received. The cylinder of the receiving instrument is made of precipitated chalk solidified by great pressure. The fluid now used to saturate the chalk is a dilute solution of hydrogen disodic phosphate. An ordinary call bell is adopted in this system as a means of giving an alarm. This telephone is unrivaled for loudness of speech, and an electro-magnet is not required in its construction.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY.

W. J. JOHNSTON, - - - Publisher.

October 1st, 1879.

WESTERN UNION stock is quoted at 94½; A. & P. at 35, and American District at 66.

A number of American District Telegraph messengers participated in the procession in honor of the arrival of General Grant at San Francisco, September 10th.

"EDISON AND HIS INVENTIONS," advertised on page 11, is a handsome volume of 172 pages, fully illustrated, and is sold at only 35 cents a copy, in paper, and 50 cents in cloth.

It is rumored that the New York, Lake Erie and Western Railroad has given notice of its intention to annul its contract with the Western Union within the next six months, and that it will enter into one with the American Union Company.

A CABLE dispatch from London states that the South African cable has been completed between Natal and Mozambique. The section from Mozambique to Zanzibar, which has also been finished, places South Africa within nine days' communication of England.

WE will thank our present readers to please draw the attention of non-subscribers and borrowers to the notice of reduction in subscription price of THE OPERATOR, and endeavor to either secure and forward their subscriptions, or have them send it themselves.

WERNER in this issue discusses the real cause of the great telegraph war between the rival companies. He thinks it is a desperate effort on the part of the Western Union Executive Committee to kill off all the high-priced operators, so that their places can be filled by lower-priced talent.

WE regret to announce the death of Mr. J. A. Clippinger, of Brighton, Cal., well known to OPERATOR readers under his *nom de plume* of Samson, and as the author of "Sam Johnson," and "The Pedagogue of Widow's Gulch." We have no particulars of his death, other than that he died over a month ago.

THE cities of Buffalo, Syracuse, and Rochester are to be connected by telephone lines, so that a person in any of these cities will be able to talk direct with a person in any of the others a distance of 150 miles. It will not be long until we can talk direct between New York, Philadelphia, or Boston, or perhaps Chicago or San Francisco.

WM. R. SEIDLE, night check boy in the Western Union office at Memphis, reported sick of yellow fever in our last, has since died. W. H. Joyce, bookkeeper, before reported sick, is convalescent. W. S. White, an operator in the same office, died September 22d. R. T. Dabney, signal service officer at Memphis, is down with the fever.

The Telegraph War at Buffalo Settled.

It will be remembered that on Saturday afternoon, September 13, a number of men, belonging to the Western Union and American Union Telegraph Companies, were arrested at Buffalo, N. Y., as reported in last issue of THE OPERATOR. At a late hour the same night, learning that Judge Haight, of the Supreme Court, had returned from Lockport, and he being the only Judge of that court in the city, Mr. Gluck, as attorney for the Western Union Company, having previously drawn the necessary papers, secretly visited the Judge at his home, roused him out of bed, and, as an entering wedge to the commencement of a suit for \$1,000 damages against the American Union Company, was successful in obtaining an injunction commanding that corporation, its counselors, agents, and assistants, to desist from injuring, molesting, or destroying any of the lines of telegraph of the Western Union, its posts, piers, or the material and property of the same, and from erecting any structures, wires, etc., that would in any manner interfere with the operation of the plaintiff's lines, or in any manner prevent the construction of its line or lines, until the further order of the court. Just before midnight these papers were quietly served. It was then too late an hour—Sunday morning having arrived—for the representatives of the American Union Company to seek judicial protection, but having prepared the papers and had an understanding with Judge Haight, they went before him at 1 o'clock Monday morning and obtained a temporary injunction against the Western Union restraining that corporation from doing any further damage or placing any obstructions in the way of the American Union wires. This injunction was accompanied by an order to show cause before Judge Haight at a special term, to be held at Lockport the following morning, why the injunction should not be considered in force.

While these legal proceedings were taking place, hostilities had been resumed at the seat of war, corner of Pearl and Seneca Streets. Sunday afternoon Mr. S. B. Gifford, of Syracuse, Superintendent of the Eighth Division of the Western Union, which extends between that city and Buffalo, arrived at Buffalo to look after things. It is understood that in the course of an interview between him and Mr. Gluck the latter said that no work could be done in consequence of the mutual agreement to suspend work until Monday which was made Saturday. Mr. Gifford expressed himself as determined to "take the bull by the horns;" he said he didn't care for the agreement. Mr. Tillinghast, the manager of the Buffalo office, had no business to make it, he said, and if Mr. Gluck didn't want to take the responsibility, other attorneys could be secured. So Mr. Gluck quietly acquiesced. This explains the cause of a second midnight attack. In relating the particulars, Mr. Edward Hall, Jr., the accredited agent of the American Union, and manager of the Bell Telephone Company, said that in view of the agreement to suspend work, he arranged with Mr. Culbertson, Superintendent of Construction, to send all his men home, and let the whole matter rest until the expiration of the time fixed. On Sunday morning he received information from private sources that the Western Union authorities were preparing to violate the truce and make a raid on the American Union lines. This was strengthened by learning late in

the afternoon that the very men employed by the Western Union, and who were guilty of the mob violence of Saturday night, had been sworn in as deputy sheriffs. The plan, it was understood, was to have these men come on to the battle ground, and while apparently appearing on the side of law and order, were in this capacity to order the American Union men to disperse. Another gang of the Western Union men would then go to work, put their wires in shape, and at the same time cut the wires of the American Union Company. By the advice of counsel, Mr. Hall directed a few men to be on the ground at midnight, with strict orders to do no work of any description, but to guard the property of the American Union from any attacks.

The plan of the Western Union, as before mentioned, was carried out to the very letter, and superior force made it successful, but it was a bad move. One of their men, named Charles Candee, climbed one of the poles of the American Union Company, and cut one of the wires. He could not be reached by any of the policemen while doing this work, but when he came down he was arrested by Capt. Donahue, of the First Precinct, and locked up on a charge of malicious mischief. The injunction obtained by the American Union had by this time been served, its terms permitting the restoration of the American Union wires. The agreement having been rendered void by the bad faith of the other side, the American Union men were ordered to replace the cut wires, but not to interfere with or cut any other lines.

Upon the opening of the Police Court on Monday, Candee was arraigned before Justice King. He pleaded not guilty. Mr. Gluck said he was not prepared to plead now, but at the proper time could explain the case in a manner satisfactory to the presiding Justice. Mr. Franklin D. Locke, as attorney for the American Union, urged that this was a mere subterfuge, the matter could be disposed of then. Justice King remarked that the case was something more than a mere misdemeanor; it was contempt of court in view of the agreement made Saturday. It was a poor corporation that could not keep its word for forty-eight hours. Candee was finally admitted to bail to appear on Wednesday. It is believed the Western Union officers' pleas will be that those higher in authority came here and took the matter out of their hands.

Mr. Gifford, after the Police Court proceedings, expressed a desire to compromise the difficulty between the two companies, and was informed that the American Union would accommodate him if its terms would be accepted; if not, it was equally ready to fight. A proposition was submitted as a basis of settlement, the terms of which were that the American Union should be allowed space sufficient for seven cross-arms on their poles two feet apart, not less than thirty feet from the ground; all legal proceedings to be discontinued without costs, and the Western Union to agree not to molest or obstruct the construction of the American Union lines at any point in Buffalo for the space of six months. The Western Union asked until 3 o'clock P. M., to decide what they would do, and this was granted. In an interview subsequent to the presentation of this proposition, Mr. Hall said: "If this is accepted, we get all we wanted, have expected, or asked for, and, of course, it will amount to a square backdown. We were disposed to meet them in a spirit of fair-

ness before this trouble occurred, but they were ugly from the start. If they had come to us and said that they wanted to build a line on Seneca Street, we would have arranged our line on Pearl Street, so as to meet them half way in the matter of accommodation. They sought, however, to carry it by brute force, employing much the same tactics employed to throw obstacles in the way of the American Union in other cities. So far we have come out ahead."

At three o'clock in the afternoon a conference of counsel was held, which resulted in the signing of an agreement, in substance as follows: The poles of the American Union Company are to be placed forty feet high, allowing seven arms or less to each pole, the wires to be strung twelve feet clear, and below those of the Western Union Company's wires, where the poles of the two companies are placed in proximity to each other. All suits are to be discontinued without loss to either party; there is to be no prosecution of the employees of either company, and both companies agree to in no way hinder the other in the prosecution of their work. The agreement is to remain in force for one year. Immediately after the signing of the agreement the work of putting the entangled wires in order was resumed.

Reduction in Subscription Price.

Our aim being to furnish not only the best telegraph paper in the world, but the best paper for the least money, we have decided to reduce the subscription price of THE OPERATOR in future to one dollar a year; six months, 50 cents; and three months, 30 cents. There will be no change in the size, style, or contents, and we shall continue, as in the past, our efforts to steadily improve the paper. Will all our present readers please draw the attention of non-subscribers to this reduction, and endeavor to secure for us all the new subscribers they can? At this low price they will find no difficulty in getting up large clubs. As premiums we will, this year, give either books, telegraphic instruments, watches, jewelry, or anything that the person getting up the club may desire, to the value of twenty-five cents for each yearly subscription obtained, and at the same rate for shorter periods. Send in names and money as received, which will be placed to your credit and can be added to at any time. Where enough subscriptions have not been secured to obtain a desired premium, the difference can be paid in cash. Cash premiums will be paid where preferred. All who can assist us in getting up clubs will please send in their names at once, and we will mail them circulars and extra copies. Many telegraphers made considerable money last fall and winter acting as agents for "Christmas Evergreens" and "Lightning Flashes." This year we have very materially improved "Christmas Evergreens," adding much new matter, several large and beautiful engravings, and an exceedingly fine frontispiece, the drawing and engraving of which alone cost \$90. This book is stated by every one who has seen advanced sheets of the new edition to be the handsomest volume at the price ever issued in America. In addition to this we have in press a new book, "General Grant; His Early Life and Military Career, with a brief account of his Presidential Administration, and Tour Around the World." By J. K. Larke; 512 closely-printed pages, handsomely printed, and bound in cloth,

and sold at only a dollar and a half. Telegraphers taking the slightest interest in these books, as well as in "Wired Love," "Oakum Pickings," "Lightning Flashes," etc., can add very materially to their salaries from this time until the holidays by acting as agents. Circulars and particulars will be mailed on application. Agents are wanted everywhere, and the commission is very liberal.

REFERRING to the subject of salaries, in conversation a few days ago, a prominent official of the Western Union said that the matter had not yet received much attention, and that, at least for the present, no general advance of salaries was contemplated. He did not know, however, what effect the opening of the new company's lines, and the consequent increased demand for operators, would have, but gave it as his opinion that next summer the salaries of first-class men would be \$100 a month, adding the very sensible remark that first-class men were worth that sum. A gentleman of the American Union, speaking on the same subject, said that his company wanted the best talent, and was willing to pay for it. The men already engaged have been taken over at higher salaries than they had previously received, and to obtain others the company would, of course, have to do the same thing. This competition for good operators, he thought, could not but have the effect of increasing salaries, and in his opinion the outlook for operators is more encouraging at the present time than it has been in many years.

A SUPERINTENDENT of Mr. Vanderbilt's New York Central Railroad recently undertook to stop work on the American Union's new line between Herkimer and Little Falls, a distance of ten miles, and forcibly removed some of the poles. With the exception of this gap, the line is now almost completed from New York to Buffalo. A temporary injunction has been granted, however, by Judge Barnard, preventing the railroad company from removing the poles, which will enable the American Union to complete the line. The land over which this line runs is claimed by the railroad company, but it has already been decided that a telegraph company can occupy ground previously condemned for railroad purposes.

THE lines of the American Union Company are being erected at the rate of 100 miles a day, but notwithstanding that the work is being done quickly it is also being done substantially. On account of the many obstacles thrown in its way by the Western Union, and the delay in getting its lines completed, the company will probably not be ready for business before the first of November. By that time it will have erected in all about ten thousand miles of new wire, in addition to the system of the Dominion line leased some months ago. The company will open for business with from 400 to 500 offices in circuit.

WE had the pleasure last week of inspecting the new switch-board for the American Union main office in this city. It is made of mahogany, polished by the same process as are the Chickering pianos, and has spaces for sixty wires, with new patent spring jacks, by means of which three instruments can be put on each wire. The switch-board is from the factory of L. G. Tillotson & Co.,

5 and 7 Dey Street, and reflects much credit upon the firm. Messrs. Tillotson & Co. are also manufacturing several smaller switch-boards, as well as other instruments, batteries, and equipments of various kinds for the new company.

Themes for the Thoughtful.

Education is the keynote of the best society.

There is no killing the suspicion that deceit has once begotten.

Every man who has decision of character will have enemies.

A moment of eternity will serve to solve the riddles of all time.

The secret which is never told is the only one that is absolutely safe.

The mainspring of a man's actions is hidden from view, as is the mainspring of a watch.

The art of forgetting is a blessed art, but the art of overlooking is more important.

As much light discourse comes from a heavy heart as from a hollow one, and from a full mind as from an empty head.

Proverbs lose their flavor by being too often quoted, as flowers too much exposed to the wind lose their fragrance.

There is wisdom in battling boldly with an adverse fate; there is deeper wisdom in a quiet submission to the inevitable.

The diamond fallen into the dirt is not the less precious, and the dust raised by high winds to Heaven is not the less vile.

Every day brings its own duties and carries them along with it; and they are as waves broken on the shore, many like them coming after.

Ingratitude is a deadly weed not only poisoning in itself, but impregnating the very atmosphere in which it grows with fetid vapors.

Men trust rather to their eyes than to their ears; the effect of precepts is, therefore, slow and tedious, while that of examples is summary and effectual.

Joy has swift wings, and but briefly tarries with us ere she resumes her flight; but sorrow, with plumage black and weary wing, long delays her departure.

In the depth of the sea the water is still; the heaviest grief is borne in silence; the deepest love flows through the eyes and touch; the purest joy is unspeakable.

The weakest living creature, by concentrating his powers upon a single object, can accomplish something; the strongest by dispersing his over many, may fail to accomplish anything.

It is a great gift of the gods to be born with a hatred and contempt of all injustice and meanness. It is a higher lot never to have lied and truckled than to have shared honors won by dishonor.

Rest is never so sweet as after a long struggle; strength never so strong as through trial; joy is a blessed thing after sorrow; and the fair dawning of sunny days could never come if we had no night.

Men have made their fortunes merely by cultivating a pleasant manner. Lawyers, doctors, divines, merchants—men in every class of life have come to distinction merely by being invariably civil. Raleigh flung down his laced coat into the mud for Elizabeth to walk on, and got for his reward a proud queen's favor. Polished manners have often made scoundrels successful, while the best of men, by their hardness and coldness, have done themselves incalculable injury.

That man who is scrupulously polite and respectful to all women in public, but habitually coarse and vulgar to his own wife and daughters, is no gentleman. He is only an imposter. The young man who oils his hair, puts sweet odors upon his handkerchief, and bows with charming elegance to his lady friends, but goes home to treat his mother with familiar discourtesy, is only a pinchbeck imitation of a gentleman. Genuine good manners and gentle breeding begin at home. As a rule, the men in a community who are the most trusted are the best men at home. When a man opens the front gate to meet his wife's face at the door radiant with pleasure, and hears the shout from the eager children, "Papa is coming!" it is safe to believe him an honest man.

The Electric Light.

We have often in these columns discussed the merits of the electric light, and have predicted a brilliant future for it. Twelve months ago it was generally understood that it was necessary to go to Paris to see a successful electric light in practical operation. No sooner had this new light advanced beyond the experimental or laboratory stage of existence than the inventive genius of this country was turned toward it, and so rapid has been the progress that to-day there are quite as good electric lights in this country as can be seen abroad. In fact, some of our best electricians, who have experimented with all types of American and European machines, unhesitatingly pronounce the American make the best.

Of the Americans who have made successful electric lights may be mentioned: Brush, mining engineer, Cleveland, Ohio, who has made magneto-electric machines and lamps; Fuller, electrician, New York, magneto-electric machine; Hockhausen, electrician, New York, magneto-electric machine; Maxim, mechanical engineer, New York, magneto-electric machine, lamps, projectors, high speed special engine, and dynamometer; Weston, New Jersey, electrician, magneto-electric machine and lamps.

Much had been expected of Prof. Edison, but as yet we have seen no Edison light. Prof. Edison has nearly all kinds of machines and lamps which he uses for experimental purposes at his laboratory. It is said that he is reluctant to abandon his pet theory of incandescence and go back to the old carbon point lamps. Still, many predict that there will be no Edison lights until he does this very thing. It is reported in the daily papers that while Edison was at Saratoga lately he examined the electric lights at the Grand Union Hotel, and pronounced them to be "the most perfect and the most effective he has yet seen." As the daily papers failed to attribute these lights to any one in particular, we will describe them:

The Hon. Judge Hilton, who may be considered the successor of the late A. T. Stewart, and to whom the Grand Union Hotel belongs, ordered an investigation of the various types of American dynamo-electric machines to be made, early in the winter of 1878-9, with a view of using the new light on the grounds of this great hotel; this resulted in the selection of the Maxim system. Early in the season Mr. Maxim put up six lights, all of large size.

One was a 20,000 candle power machine, which was found to be too powerful for practical use. The current of this machine was therefore divided, and two lamps placed in two separate circuits, each of which produced a light of 8,000 candles. The other lamps are supplied by smaller machines of 6,000 candle power. From dark until 9:30 the grounds, which are of immense size, are lighted with lamps hanging from the trees, and so brilliant is the light that fine print can be read with perfect ease anywhere inside the inclosure. At 9:30 three of the lights are extinguished, and the current switched on to the projectors, two of which have colored glass slides. These are used to illuminate the fountains.

This feature has proved a very great attraction; so much so, indeed, that the Grand Union Hotel was filled before any of its rivals, and guests requested that they might be put in the inside rooms where the fountains could be seen from their windows. The flood of light from the projectors is so great, and the colors are so vividly intense, that the effect is brilliant in the extreme. As the colors slowly change from ultra violet through all the prismatic tints to deep red, and every minute drop of water or particle of spray shines like a diamond in the sunlight, it has but to be seen to be admired and remembered.

Judge Hilton may be said to be an ultra-practical man. When he first saw the colored fountains, he took a seat and carefully watched them for fully an hour, then turning to a party of gentlemen present, of whom the writer was one, he remarked: "It is really beautiful; it is very pleasing; and as some new phase of color and shape is constantly presenting itself, you do not tire of looking at it. It is infinitely better than

any fireworks, and has these advantages: you know, it is going to last, and will not sputter, flash, and go out in a few seconds; it makes no smoke, no noise, and does not poison the air; there is no danger of an explosion, neither is there any danger to property, and, moreover, it is cheap. Whenever I see fireworks I think what a lot of money is so quickly burned up."

While the Judge was speaking a lady approached and said, "Oh, Judge, is it not like a shower of melted gold?" (The light was orange at the moment.) The Judge answered, "I don't know, Miss; I never have as yet seen a shower of melted gold."

The central tower of the Grand Union Hotel is about 125 feet above the sidewalk. On this is placed a powerful projector, which is used to throw a light on the incoming evening trains. A party of ladies and gentlemen arranged to have the light thrown in the direction of Ballston Spa, $7\frac{1}{2}$ miles away. The night was dark and clear (July 12), everything being favorable and the apparatus in the hands of an expert, who focused the carbons with the greatest nicety. The result was a telegram from Ballston, as follows: "Light cast deep shadows, and is strong enough to read by."

The cost per night of these lights is as follows: carbons, 75 cts.; coal, \$1. One extra engineer at \$2.50 per diem is employed; therefore the cost is \$4.25 per night. An old elevator engine is used for motive power.

The Stewart property at Saratoga has heretofore been lighted with a Maxim gas machine of 8,000 burners' capacity, which makes the equivalent of 1,000 feet of coal gas for 50 cts. This year the gas was taken out of the grounds and the electric light substituted. It is found that electricity can compete favorably with gas, even at this low figure.

The cost of gas lighting, had this cheap gas been used this year, with the low price of petroleum, would have been about \$2 per night with the usual degree of illumination, and \$40 had enough gas been burned to equal the illumination of the electric light, or \$240 per night had Saratoga coal gas been used for the same degree of light.—*Scientific News*.

Simeon E. Mayo.

The sudden death of Simeon E. Mayo, of Albany in New York city, last Saturday evening, has called away one of the noblest of our profession, who did splendid service in the telegraph business under the New York, Albany, and Buffalo Company's regime. He flourished in good old days when Wal Leaning, O. E. Wood, "Sid" Gifford, "Alf" Brown, (now Superintendent), "Bill" Hall, George E. Allen, Johnnie Bowles, "Nat" Hucker, M. Collins, John Fuller, Bill Bull, Jim Hawne, Dick Stevens, M. Cutter, N. S. B. Gates, Deacon Cheney, Pat Kelly, and other veterans played with the key, and wore out their eyes reading press reports from the register slips and hardly had any idea that they wouldn't ever be able to discard the old eight day clockwork for such a thing as a "hubbuck" "pony" sounder.

Mr. Mayo was born in Manhall, Oneida County, in 1829, and was consequently 50 years of age. He commenced active life in this city, as an errand boy with Stacy & Golden, in the dry goods trade. This gave him poor compensation, and Col. White, of the old Central Hotel, agreeing to trust him for his board while he learned telegraphing, "Sim" went to work with a will until he was master of the intricate alphabet. His first office was at Fonda, on the Central Road, and his "I, till I kill a cat," was one of the first humorous memories I have of this dear old telegrapher. In a short time he was far enough advanced to be competent to work in the Albany office, and while there did admirable service. After a time (in 1856, I think) he came to Utica again, and here he remained till about the close of the war. I had the pleasure and satisfaction of being associated with Mr. Mayo in this office, directly and indirectly, from 1857 to early in 1864, and the memories clustering around those years are among the happiest of my life. "Sim" (as he was generally called) was invariably happy in his disposition, humorous in the highest degree, exceedingly witty, without ever wounding, comical and droll in descriptive powers, and had the kindest of hearts. In all my intercourse

with him, from the time he put me to bed as a child when I interfered with his courting hours, until I left Utica in 1864, I never heard him speak an unkind word to an associate, from the messenger boys upward, or say a harsh thing of a fellow-being. He was persevering, faithful and untiring in the interest of the company, and courteous in the extreme to its patrons. He possessed one characteristic of old-time operators in the highest degree—one that I seldom note in the hurried profession nowadays, viz.: a deep personal interest in the transmission of sickness, death and other social telegrams, and the hastening of replies. The afflictions and misfortunes of the humblest correspondent seemed to interest him deeply, and he never felt at ease until their messages were sent and a satisfactory reply returned. In the hurry and skurry of life nowadays a "sick" or "death" message takes its turn on the file with one ordering a box of fish or a barrel of oysters. Wires were not very numerous then, and lines were poorly constructed and insulated, as compared with those of the present day, and this made the work more difficult and tedious. Mr. Mayo was a first-class electrician as they then ran, and his "tests" were invariably correct. The cash receipts of each day, with the "paid other lines," "checks," and "should checks," were telegraphed daily to the Utica office, and Sim had a peculiar faculty for stirring up Cold Spring, Carmel and Yonkers and other small offices for their "receipts"—which four days out of the six footed up nothing. Ex-Supt. James D. Reid presided in Utica during some of Mr. Mayo's telegraphic career, and his gifted pen can pay a more finished tribute to his memory than can my busy pencil.

From Utica Mr. Mayo was transferred to the Albany office, where he remained until November 1, 1866. On his retirement at that time from the employ of the Western Union Telegraph Company, a large number of people gathered and presented him with a collection of portraits of associates and friends, mementoes which are held in high regard by his bereaved widow. His resignation was caused by his appointment as superintendent of telegraphs for the Delaware and Hudson Canal Company, to which was also added the general passenger agency for the same corporation. In 1878 he was made general passenger agent of the People's line of steamers by the Daniel Drew interest, and served in that capacity with his characteristic fidelity and enterprise. This summer he was superintendent of the Long Branch line of steamers to the pier, and won new laurels. Last Saturday his affairs were settled to perfection, and in the evening he telegraphed his wife that he would be at home in a few hours. Shortly afterward he felt unwell and returned to his boarding house. His landlady found him quite ill and vomiting. The physician called saw that his case was hopeless, and telegraphed his wife. While Mrs. Mayo was reading the telegram her husband was dying, and in a few moments he was at rest. The cause of his death is supposed to have been uremic poisoning, resulting from Bright's disease. Twenty-five years ago Mr. Mayo was married to Miss Sarah Arnott, daughter of the late Benjamin Arnott, of Utica. He leaves one child, Edward Simeon Mayo, an accomplished musician, vocalist, and stenographer. Mr. Mayo was an honored member of Utica Lodge F. & A. M., the Royal Arch Chapter, and Utica Commandery No. 8, Knights Templar. He was also the historian of the Carlton Island Club, a social organization of Utica, Chicago, and Buffalo business and professional gentlemen, by whom he was held in the highest esteem.

The record of Mr. Mayo's telegraphic life and of his general career is one of singular purity, faithfulness, perseverance, and good nature. The number of telegraphers who date their success in the profession from the time he gave them an encouraging word and kindly-tendered hints for their improvement, is quite large. We who knew him can appreciate his modest worth, but can never describe it justly. To-day we laid him at rest in our beautiful city of the dead—Forest Hill Cemetery—to remain until he responds to the final call. The green turf never reposed over a kindlier soul or a telegrapher more worthy of honored memory by the profession.

J. J. FLANAGAN.

UTICA, N. Y., Sept. 24th.

The "Great Eastern," the steamship that laid the Atlantic cable, and which has long been lying at Milford Haven, England, is to be fitted up with new boilers and engines at a cost of £100,000. She is to serve as a cattle ship, for the purpose of trading between London and Texas. It is estimated that the great ship can carry 2,200 head of cattle, and 36,000 sheep.

The Applicant Fiend.

The irrepressible "want a situation at any price" fiend still stalks abroad in the wilds of Iowa, seeking whom he may devour. He is, of course, a strictly first-class operator, with limited education and experience. Telegraph superintendents become hardened to their persistent ravages, and their numberless applications glance harmlessly aside from their intended victim, falling naturally into the waste basket, generally lost to the sight and sympathy of a long-suffering fraternity.

The latest candidate for telegraphic honors and a monthly stipend coming under the writer's notice hails from Massillon, Iowa, and signs "X" (an abbreviation for "Ed"). He is a fearful and wonderful artist, his copy rivalling that of the late lamented Horace, who perhaps, by the way, advised our hero to emigrate West.

With no feeling of pity, remorse, or regret, and with no previous warning, he launched the following at a well-known chief operator of a Western road, which "struck home," so to speak. Here it is verbatim:

Dear sir, Is their Any Chance on the New Road from Aims to de-moins for Eather Agent or Operator? if their is Would Be Very thankful If you Would Be so Kind as to Give me Employment. I can Furnish you Good Refurances of Work & if you Say so I Will send them to you. I am at massillon, learning mr. —s Boy How to Telegraph (?), Putting set of Insts up &c. now mr —, Please give Me employment Am In need of it Very Bad & Hope My Effects may Meet with Good Success of You please Give me Work if in Your Power of Control which It may Be. Please Answer ry-Biz—73.

Yours With Respect,
ED. A. BRANDENBURG

p. s. I Sine Ed on Line.

"In an evil moment the chief decided to answer this unfortunate young man, sending him the usual stereotyped reply. This answer was undoubtedly received, for by return train came an avalanche of words and sentences still more formidable than "roast" No. 1, and which reads something like this:

Sir:—Your Kind letter of 15th Lays before me. Was Very sorry When finished Reading But Hope My Effects may Meet with Success for Refurence write to H H Matlock manager W U Tel Office Cor 2d & brady St city of Davenport Iowa

I was Night opr & Clerk Under him for District telegraph co. Nearly a year & As I was Last Man Hired was of Course first one to Go & am flat on My Back & Not able to be Pressed to Hard Service or Would be Willing to go Fourth am on this Road Temporary Have My Student Nearly learned, So My time is Short, so Please send For Me qk. am effected with Rumetism & am willing to work Nites or Extras anything to Keep From poor House. Please Help me when posible Good Recomend on Hand at any Time Required or Please Refur me To some Road where I Can Get a Chance.

Supt Of this Road Hired all His men Befor He knew I wanted to work.

Yours Hoping to Hear 73.

ED. A. BRANDENBURG, Opr.

* * * * *

Any road requiring a first-class man with colossal "gall" and limited experience will please give the chance to Mr. Ed. A. Brandenburg, operator of Massillon, Iowa (who signs Ed.), sending for the ambitious young man "quick." Yet we wonder where first-class twenty-nine dollar telegraphers come from!

Before closing we would quietly advise all embryo operators, ambitious students, and cheeky plugs to avoid the chief operators of a certain Western railroad as they would a fiery simoon or a tour to Zulu land.

CLINTON, IOWA.

The Mammoth Cave in Kentucky has been purchased by a company of Eastern capitalists for \$200,000. The interior will be illuminated with electric light, and telegraph wires will afford communication between all parts of the cave and the outer world.

The Telegraph War at Buffalo.

The course pursued by the Western Union Telegraph Company at Buffalo on Saturday is a disgrace to any community, and it would be difficult to believe that the managers of the company were in sympathy with the action of their employes, were it not that that action is in direct keeping with the course that has been pursued by the Western Union ever since the organization of its present opponent. Persons who will employ men to destroy the poles of an opposition line by stealth, it may be expected, will indorse any action that, in their blind judgments, they may conceive will serve their ends, regardless of law or decency. The dispatch from Buffalo states that "the sympathy of the community is with the new company to a strong degree." Why should it not be so? A monopoly that seeks by force to destroy all competition, while it continues to exact a tax from the people in the shape of exorbitant rates for services rendered, certainly cannot hope to have the sympathy of the people thus taxed. The Western Union charges rates for telegraphic service sufficient to pay a good rate of interest on a capital twice as large as that necessary to duplicate its lines and other equipment, and, having lost the friendship of the public that is forced to patronize it, it seeks by force of arms, and in direct violation of the law, to prolong its hold upon that public.—*American Exchange*.

The quarrel between the Western Union Telegraph Company and the American Union Company, at Buffalo, has been settled by an agreement which appears to give to the new company all the advantages which it required. Before this agreement was reached, however, there were several incidents which were simply disgraceful to those who took the initiative in them. The Western Union Company, through one of their officers high in authority, broke the agreement which was made on Saturday. An application was made to Judge Haight, at nearly midnight, for a temporary injunction against the rival company. Though this was balanced by another injunction, granted against the Western Union Company at 1 A. M. on Monday, it was in itself a most remarkable and discreditable proceeding. The spectacle of a judge called from his slumbers in the middle of the night to hold court—possibly in his bedroom—to issue an injunction for a corporation against its rival is not an edifying one. It has an unpleasant flavor of the days of Barnard and Fisk, and would be shocking to respectable public opinion, even if the rights of the petitioning corporation were far more clear and strong than those of the Western Union Telegraph Company appear to be in this case. Of the merits of the controversy between the old and the new companies we are not required to judge, but surely the old company's service is not so perfect that it can expect public approval in the extraordinary legal tactics to which it resorted at Buffalo to prevent competition.—*N. Y. Times*.

Suicide by Telegraph.

The charge against Ahmed John Kenealy, eldest son of Dr. Kenealy, M.P., for forgery in connection with a news telegram, came before Mr. Greenwood, stipendiary, and other magistrates, on Sept. 2d, at Burslem. On the 12th of July a paragraph appeared in the Birmingham *Daily Post* and two other papers announcing that Ahmed Kenealy had blown his brains out at the village of Whitmore, a few miles from the Staffe Potteries. The news had been telegraphed the night before from Etruria Post Office, in the name of the representative of the *Daily Post*, and was, of course, supposed to be genuine, which, however, was not the case, the report being a hoax. The inquiries which had been made led to the present charge against the reported suicide himself of being the author of the hoax.

Mr. Tomkinson, solicitor, prosecuted. He said that a month ago he applied for a summons against Ahmed Kenealy, charging him with forgery, and that at the time he explained that on the 11th of July last a telegram purporting to be sent by the complainant, reporter for the Birmingham *Daily Post*, was dispatched from Etruria Post Office to the *Daily Post* and several other papers, both local and London, containing a glowing account of the blowing out the brains of the present defendant. Of course it was a very serious matter to send false information to newspapers, and it was on that ground that these proceedings were taken. He should show that a telegram

describing the alleged suicide was sent from the Etruria Station and that it was, beyond all doubt, in the handwriting of the defendant. Mr. Tomkinson then proceeded to explain what constituted forgery at common law, and contended that this false telegram was to the prejudice of the complainant and was a fraud upon the public. Miss Louisa Faram, daughter of the Etruria postmaster, stated that she received the telegram produced on July 11, from a boy. It was on a press form, and was paid for at press rate by the defendant. Mr. W. P. Bruton, the complainant, stated that he was the representative of the Birmingham *Daily Post* in this district. He had not sent the telegram which had been read. No portion of it was in his handwriting, and he never heard of the unfortunate tragedy until he saw it in the papers on the morning of the 12th of July. The proceedings were taken by the direction of his employers by the defendant. Several witnesses were called to speak to the handwriting and the defendant being in the neighborhood of the Etruria office at the time the telegram was sent away.

The case was dismissed, with an intimation from the bench that the defendant had written the telegram. This termination of the case is in every way unsatisfactory. The magistrate expressed an opinion that Mr. Kenealy had sent the false telegram announcing his own suicide, but he decided that the offense was not forgery. If not forgery, was it an offense at all? Certainly it ought to be. If such an action is not punishable, newspapers and their provincial correspondents will be altogether at the mercy of malicious and mischievous fools.—*London Echo*.

A Young Lady's Perplexity.

On Monday evening, one of the ladies who display their anatomy nightly at the Chestnut Street Theatre, with the Rice Surprise Party, tripped lightly into the Western Union Telegraph office and indited a message to her mother, in New York city, to this effect: "Have received no letter; am worried."

Last evening the maiden fair again appeared at the telegraph office, but this time she was more than worried—she was angry. She desired a few moments' talk with the operator who had sent the message to her mother. A letter had been received, but its contents were scathing. This was the fault of some one connected with the telegraphic wires. The message received by her parent read: "Have received no letter; am married."

The mother was surprised at this sudden announcement, and she gave the daughter a large piece of her mind. The operator had mistaken "worried" for "married," no doubt thinking the meaning was the same, and had wired the mother the surprising intelligence. Every effort was made by the officials to unmarry the young lady by telegraph, and her rage will subside by the next mail.—*Philadelphia Record*.

[This was not a telegraphic error. The message was sent O. K. and the word "worried" was so written on the copy delivered, but the recipient (an old lady) read it "married," through her own thickheadedness.—Ed.]

The New York Wire Club.

'Tis the sunset of life gives me mystical lore,
And coming events cast their shadows before.

The annual September meeting of the New York Wire Club was very fully attended by members and invited guests. The personnel of the club is much the same as last year; but many new faces are seen, the membership having largely increased. Mr. Samuel B. Lambdin occupies the same seat as before, and the various attitudes which he assumes in the delivery of his well rounded periods are the admiration of his many friends. Directly across the aisle, the well known features of Private Denny Brown, of the Thirteenth Regiment, are seen, wreathed in smiles, at once childlike and bland. Gilly Olmstead, Charley Jennings (the handsomest man in the club), and Gisborn Ward, are grouped upon the

left of the main passage, and are among the most popular artists of the association.

The election of officers resulted in the choice of Jeremiah A. Borst, President, by acclamation; Robert W. Martin, Vice-President; Giles N. Howlett and Luther R. Hallock, Secretaries; and M. J. P. Kavanagh, Treasurer.

Supt. L. E. Weller rapped for order and appointed Messrs. D. F. Brown and Gilbert Olmstead a committee to wait upon Mr. Borst and inform him of his re-election. In a few moments Mr. Borst was conducted to the platform amid prolonged and enthusiastic applause, and the powerful sentences of his opening address were interrupted from time to time by rousing cheers for the honored and distinguished leader.

Vice-President Martin was also the recipient of hearty and long-continued cheering, and frequently bowed his acknowledgments for the compliment tendered him. After a brilliant prelude by Supt. Weller upon the parlor organ, Messrs. James F. Crate and O-car Kraft sang "The Larboard Watch" with a depth of feeling that drew a tear to every eye, and even Supt. Weller paused in his accompaniment, and listened with unfeigned delight to the sweet melody of the gifted minstrels. As the last clear notes died away a storm of applause testified the approval of the audience.

Supt. Weller, who was attired in the uniform of the Erie Railway, then mounted the rostrum and said: "My friends, I have accepted the onerous and responsible position of station agent at Otisville; I must leave the Wire Club for that broad home that has been mine so long—the world. It seems broader than ever, and colder than ever, and less to be wished for than ever. I will say nothing of 'my sturdy effort to beat down the roughnesses of toil'; nothing of such manliness as wears a calm front amid the frowns of the world; nothing of little triumphs in the everyday fight of life; but as we now adjourn, I will simply quote the lines of Miles O'Reilly:

"There are bonds of all sorts in this world of ours—
Fetters of friendship, and ties of flowers,
And true-lovers' knots, I ween;
But there's never a bond, old friend, like this—
We've drunk from the same canteen."

Western Union Athletics.

A meeting of the employees of the Western Union building interested in athletics was held on Sept. 19, in reference to their fall games. A committee consisting of Messrs. P. J. Tierney, E. A. Leslie and F. W. Cushing, was appointed and given power to arrange the details of the coming meeting. The following programme has since been selected, and the contests will take place in the order named:

- No. 1.—100-yard run, (handicap,) trial heats.
- " 2.—1 mile walk, (handicap).
- " 3.—1 mile run, for messengers in uniform.
- " 4.—Final heat 100 yard run.
- " 5.—1 mile run.
- " 6.—3-mile walk, (handicap).
- " 7.—220-yard run.
- " 8.—3-legged race, (100 yards).
- " 9.—5 miles, go as you please.
- " 10.—Tug of war.

An entrance fee of 50 cents per man will be charged in each contest, payable on November 1st, on which date the entries will close.

The date of the meeting has not yet been fixed, but will not be earlier than during the first week of November, so that all who wish to compete will have ample time for practice.

In view of the growing interest taken in these sports, it has been decided to throw the games open to the fraternity, and all are invited to attend either as competitors or spectators. Communications on the subject should be addressed to P. J. Tierney, Secretary W. U. Telegraph Co., N. Y.

Daring Scheme to Raise Money.

The Sun, of this city, last week published a long account of the abduction of a young lady in Buffalo, by a telegraph operator named Charles E. Schuyler. It appears that Schuyler called at a fashionable private boarding school, and inquired for a Miss Emily K. Davis, a pupil. He told her that her father had been fatally injured by the falling of a house upon him, and that he was a clerk in her

father's employ, and would take her to where her dyna father was. Miss Davis, overcome with grief, accompanied him. Schuyler took her into a room in an unoccupied building, and locking the door, refused to permit her to depart until she had written her father to send him, Schuyler, five hundred dollars. The young lady screamed for assistance so vigorously, however, that Schuyler subsequently got frightened and let her out. Detectives were immediately put on his track, and he was arrested, and lodged in jail in default of \$5,000 bail. He said in explanation that he needed money badly, and thought that the plan he took was an excellent one to raise it. He was searched, and a package of papers revealed a list of young ladies, all daughters of wealthy citizens, and the names and locations of two other private female high schools. There were memoranda of parents, their business, financial condition, and other facts which indicate that Schuyler intended to continue his original way of raising money. Schuyler, who is a native of Little Falls, N. Y., is 22 years of age, and said to be a man of very fine appearance. He worked in the Binghamton, N. Y., Western Union office, but left there three months ago, and accepted and filled a position in the Buffalo Western Union office until a very short time ago. The report that he worked in the Western Union main office, this city, as press operator, is not correct, no operator by that name, having been employed in that office in any capacity. The other report that he is not an operator at all, but a Chicago burglar, is equally erroneous.

Echoes from 197 and City Items.

The number of messages handled daily at 197 has run up to 52,000, and the press reports have increased in the same ratio.

"Is it ever possible for a man who knows something, and who is not remarkable for his cheek, to become a chief operator?"

"Oh, never!"

"What, never?"

"Well, hardly—"

"Sh-h-h! That'll do."

Mr. John H. Dwight has resigned his position of chief operator with the Western Union company. "Jack" has the best wishes of all for his future prosperity and success. To report otherwise "would pluck reproof and rebuke from every ear that heard it."

Manager Tinker, of the Baltimore & Ohio Railroad Telegraph Company, is in the city, looking for a building in which to locate the main office.

PERSONALS.

Mr. W. H. Preece, an English electrician well known in this country, recently received an injury to his leg which incapacitates him for the present from active service.

Milton Stannard, for a long time operator at Holyoke, Mass., has accepted a position as manager at Greenfield, Mass. Frank Graves, of Shelburne Falls, takes his place.

Miss Lizzie F. Brown, of Portsmouth, N. H., has been appointed telegraph operator and ticket agent for the Eastern R. R. at Beverly, Mass., in place of Miss Ida E. Hammond, resigned.

Mr. Dave Newton, night operator in the Western Union office here for a short time past, leaves this morning for a two months' out. He goes with the line inspectors and will visit many points between here and Nevada before his return.—Salt Lake (Utah) Herald.

We have received since last issue several names of those in a position to act as agents for us this fall and winter. We should be glad to receive many more between now and next issue. The premiums are liberal, and the subscription price of the paper very low.

TEXAS.—Frank Miller, recently from the oil regions, has accepted a regular position in Galveston, Texas, office. G. W. Hurd, who resigned two months since, is now permanently located on his ranch in southwestern Texas. W. W. Harris has been transferred to Bryan, Tex., as manager. Ike Cohen, the "irrepressible," has accepted a position in H. and T. C. Ry. General Offices. W. Virginius Petty, late of Leadbetter, has accepted a lucrative position here as bookkeeper days, and works St.

Louis nights. There is a great demand for R. R. operators in this country, at salaries ranging from \$15 to \$30 per month. LONE STAR.

MILWAUKEE.—Being out on a business tour through the city a few days ago, I wandered into the N. W. Tel. office. How natural the scene! When I opened the door and gazed around on the many familiar and good-looking faces and intelligent heads (not a bald one among them) I almost wept for having deserted the ranks. I failed to discover any new faces in the office. The same good-natured crew still cling to the craft, which apparently intends to carry them into a brighter future. Milwaukee office can boast of a fine lot of boys, all of them first-class artists. Several of them have long since established enviable reputations. The following is a complete list: W. H. Kelsey, Will Maher, Fitzgerald, E. M. Shape, Mark Farley, Howell, H. J. Ramsey, Orson Wells, M. W. O'Ryan, W. R. Barker, Nelson Collett, Will Plant, Ed. Hickey (the boy wonder), Hank Nelson, Jim Bradley, Ed. Patterson, Arthur Allen, Ned Cottrell and Gifford. One would never regret being associated with such men. I often think, as I sit here watching the passing crowd, of the many pleasant days spent before the mast, as it were, in the good ship "Telegrapher." It is with indescribable pleasure that I embrace every opportunity offered of paying a visit to my old associates, and many of them drop in now and then to see me. To such I extend a cordial welcome. A chat, no matter how short, always proves enjoyable. Taking all things into consideration, I do not by any means regret having served an apprenticeship as a telegrapher. CAMEO.

MARRIAGES.

Sept. 11th, in Gloucester, Mass., by the Rev. Mr. English, Mr. Israel T. Webber, of Beverly, Mass., to Miss Ida E. Hammond, of Gloucester, formerly operator at Beverly.

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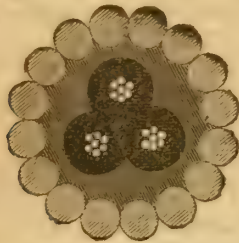
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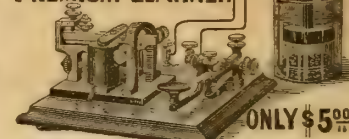
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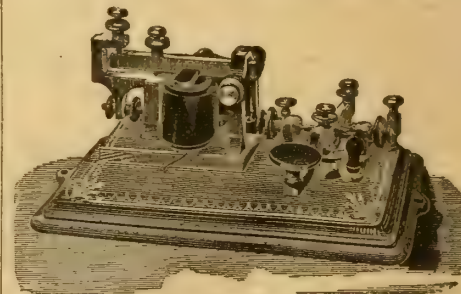
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A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY.

VOL. X.—No. 20.

NEW YORK, OCTOBER 15, 1879.

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February 12, 1877, he writes further, "This piece of Kerite wire, unprotected by any covering, was in use in the tunnel under the river in Chicago from Sept. 1869 until December, 1876, and shows no signs of decay or deterioration in its insulating qualities."

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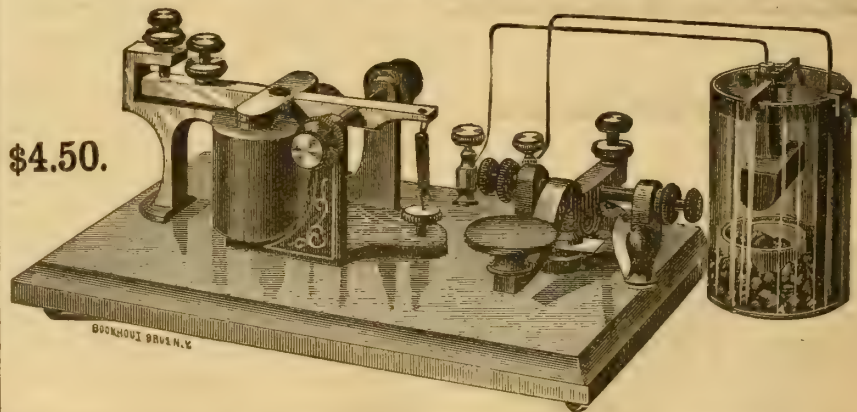
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THE OPERATOR A JOURNAL OF Scientific & Practical TELEGRAPHY

October 15th, 1879.

Volume X.

Whole No. 136.

The Lightning-Rod Dispenser.

If the weary world is willing, I've a little word to say
Of a lightning-rod dispenser that dropped down on
me one day,

With a poem in his motions, with a sermon in his mien,
With hands as white as lilies, and a face uncommon
clean.

No wrinkle had his vestments, and his linen glistened
white,

And his new constructed necktie was an interesting
sight;

Which I almost wish his razor had made red that white-
skinned throat,

And the new constructed necktie had composed a
hangman's knot,

Ere he brought his sleek-trimmed carcass for my women
folks to see,

And his rip-saw tongue a buzzin' for to gouge a gash
in me.

But I couldn't help but like him—as I always think I
must,

The gold of my own doctrines in a fellow-heap of dust;
When I fired my own opinions at this person, round by
round,

They drew an answering volley, of a very similar sound;
I touched him on religion, and the hopes my heart had
known;

He said he'd had experiences quite similar of his own.
I told him of the doubtin's that made dark my early
years;

He had laid awake till morning with that same old
breed of fears.

I told him of the rough path I hoped to heaven to go;
He was on that very ladder, only just a round below.

I told him of my visions, of the sinfulness of gain;
He had seen the self-same pictures, though not quite so
clear and plain.

Our politics was different, and at first he galled and
winced;

But I arg'd him so-able, he was very soon convinced.

And 'twas getting toward the middle of a hungry sum-
mer day;

There was dinner on the table, and I asked him would
he stay?

And he sat down among us, everlasting trim and neat,
And asked a short, crisp blessing, almost good enough to
eat.

Then he fired up on the mercies of our Great Eternal
Friend.

And gave the Lord Almighty a good, first-class recom-
mend;

And for full an hour we listened to the sugar-coated
scamp,

Talking like a blessed angel—eating like a—blasted
trump.

My wife, she liked the stranger, smiling on him warm
and sweet,

(It always flatters women, when their guests are on the
eat).

And he hinted that some ladies never lose their early
charms,

And kissed her latest baby, and received it in his arms.
My sons and daughters liked him, for he had progres-
sive views,

And chewed the quid of fancy, and gave down the latest
news;

And I couldn't help but like him, as I fear I always
must,

The gold of my own doctrines, in a fellow-heap of dust.

He was spreading desolation through a piece of apple-
pie,

When he paused, and looked upon us with a tear in his
off-eye,

And said, "O, happy family! your blessings make me
sad;

You call to mind the dear ones that in happier days I
had;

A wife as sweet as this one; a babe as bright and fair;
A little girl with ringlets, like that one over there.

I worshipped them too blindly! my eyes with love were
dim!

God took them to his own heart, and now I worship
Him.

But had I not neglected the means within my way,
Then they might still be living, and loving me to-day.

"One night there came a tempest, the thunder-peals
were dire;

The clouds that tramped above us were shooting bolts
of fire;

In my own house, I, lying, was thinking, to my blame,
How little had I guarded against those shafts of flame,

When, crash!—through roof and ceiling the deadly
lightning cleft.

And killed my wife and children, and only I was left.

"Since that dread time, I've wandered, and naught for
life have cared,

Save to save others' loved ones, whose lives have yet
been spared;

Since then, it is my mission, where'er by sorrow tossed,
To sell to virtuous people good lightning-rods—at cost.

With sure and strong protection I'll clothe your build-
ing o'er,

'Twill cost you fifty dollars (perhaps a trifle more);
What little else it comes to at lowest price I'll put,

(You signing this agreement to pay so much per foot.)"

I signed it, while my family all approving stood about;
And dropped a tear upon it—but it didn't blot it out!

That very day with wagons came some men, both great
and small;

They climbed upon my buildings just as if they owned
'em all;

They hacked 'em, and they hewed 'em, much against
my loud desires;

They trimmed 'em with gewgaws, and they bound 'em
down with wires;

They trimmed 'em and they wired 'em, and they trim-
med an' wired 'em still;

And every precious minute kept a-running up the bill.

My soft-spoken guest a seeking, did I rave and rush and
run;

He was supping with a neighbor, just a three-mile
further on.

"Do you think," I fiercely shouted, "that I want a mile
o' wire

To save each separate hay-cock out o' heaven's con-
suming fire?

Do you think, to keep my buildin's safe from some un-
certain harm,

I'm goin' to deed you over all the balance of my farm?"

He looked up quite astonished, with a face devoid of
guile,

And he pointed to the contract with a reassuring smile;
It was the first occasion that he disagreed with me:

But he held me to that paper with a firmness sad to see;
And for that thunder-stroke, ere the racial finally went,

I paid two hundred dollars, if I paid a single cent.

And if any lightning-rodder wants a dinner dialogue
With the restaurant department of an enterprising dog,

Let him set his mill a-runnin' just inside my outside
gate.

And I'll bet two hundred dollars that he won't have
long to wait.

WILL CARLETON.

Old Dad Skoule.

Old Dad Skoule is a crusty bachelor of some
forty-nine winters, and has been for the past thir-
teen years the operator at Slaughterville, Penn.,
a place which is just now terribly agitated by the
official fight that took place there on the 8th inst.,
between Old Dad Skoule and Reddy Hank, the
enterprising new engineer of the lightning express
train.

It is well known that every self-respecting rail-
road operator considers himself the equal of an
engineer, if not a trifle better; and Dad Skoule
was an enthusiastic exponent of this doctrine.
Dad considered himself sole director of everything
in railroad matters within three miles each side of
Slaughterville; therefore, he would brook no
"opposition." He habitually quarreled with his
hereditary foes, the engineers, about the proper
meaning of train orders, about routine business,
and upon every trivial pretext; and, when there
was no better excuse, and a train stopped long
enough, Old Dad picked a quarrel with the en-
gineer on general principles. Years of successful
domination over his friends had made him dog-
matical and overbearing. He fancied that the
entire business of railroading depended upon him;
and, therefore, when Reddy Hank, a new upstart
engineer, undertook to show that things could be
better managed than by Dad's antiquated notions,
a bitter "war" ensued.

On the other hand, all genuine engineers con-
sider a slow-going, unteachable operator as the
most despicable of human beings. Reddy Hank,
although acknowledging himself to be something
of a parvenu, had become a sturdy disciple of
this doctrine, immediately after his first trip over
the road. He held new and progressive ideas of
matters relating to railroads, and although he

freely acknowledged that there was room enough
for him and Old Dad on the road, each in his own
place, he announced a grim determination to run
his own train as he saw fit. Now, as Dad Skoule's
old-time theories were diametrically opposite to
Reddy's, a lively "competition" soon arose be-
tween them, and spread like wild-fire to the entire
population of Slaughterville.

On the morning in question—the 8th inst., as I
said before—Old Dad Skoule was about twice as
crusty as ever and was, moreover, very busy
selling tickets for the express train, which was to
arrive at 7:10 A. M. On such occasions as this,
when there were "orders" for that train and Dad
was busy with his tickets, his night operator—an
obliging sort of a young fellow whom Dad relieved
at 7 A. M.—was in the habit of putting out the red
flag for Dad, and, if the morning were a foggy
one, of putting a fog-signal (technically called
"a cap") also upon the track. The explosion
would call the engineer's attention to the flag in
case the fog obscured it. On this particular morn-
ing there were "orders" for the express train, so be-
fore going to breakfast, the night operator oblig-
ingly put out the flag. There was a dense fog,
too, so he also fastened an explosive fog-signal to
the rails. Soon afterward, as is quite frequent in
mountainous regions, the fog lifted, and before
the express arrived, the atmosphere was as clear
as on the brightest day in midsummer.

Now, Dad Skoule saw that the flag was sta-
tioned all right, but he had no idea that his youth-
ful and accommodating night-man had also placed
a fog-signal on the track—nor was any one else
aware of that fact until the express, with Reddy's
engine all newly burnished and painted, driven by
Reddy himself, rolled slowly into the station, ran
over the "cap" in question and exploded it.
Reddy was stopping anyhow, in obedience to the
flag, but he again nervously tried the Westinghouse
brakes; the train-men, all in great alarm, gave
an extra twist to the ordinary brakes, and the
female passengers screamed faintly as they ran
over the torpedo and heard the shocking loud
report. As soon as it was discovered that there
was no unusual danger, everybody got mad. No
engineer could reasonably be expected to tolerate
fog-signals under his very nose—that is, under
his train—in staring broad daylight, and at a
time when his vigilant eye perceived the red flag
at least three miles away. Much less could Reddy
Hank be expected to tolerate this kind of non-
sense from Old Dad Skoule. If old Skoule had
only come out and frantically waved his umbrella,
or hollo'd like a madman, or done anything else
bordering on absolute insanity, as he had often
done before, Hank would not have been surprised;
but he felt now that an enlightened and progres-
sive engineer with a thorough contempt for the
old methods, was bound to draw the line some-
where, and he drew it accordingly at the uncalled-
for and absurd use of fog-signals when there was
no fog. Meanwhile, old Skoule—who had also
been startled by the explosion, and in consequence
had made two errors in a message to the superin-
tendent, had got an idea into his head that Reddy
Hank was throwing torpedoes into the depot to
irritate him. He immediately resolved to keep
his temper and play a "still-hunt game," but he
felt his back gradually rising as he looked out of
his window and heard Hank indulging in wither-
ing sarcasms about the whole scribbling crew
of telegraphers; anathematizing Dad Skoule
in particular as a consummate ass for "flag-
ging" a train with both flag and torpedo
in broad daylight, and inquiring sarcasti-
cally why he also did not use an electric light and
a Gatling gun. It was then and then only that
old Skoule, who considered himself as one suffer-
ing under the oppression of a parvenu rival, and
believing that he was as good a man as ever
wring the nose of an interloping engineer, took
leave of his temper. He openly accused the al-
ready irate Reddy Hank of wantonly throwing
fire-crackers into the station; informed him that
engineers generally did not know their own place,
and that he (Skoule) was not going to permit
himself to be "piped off" in that style. One
word brought on another, until old Skoule fired
an inkstand, and the engineer, nothing loth, re-

plied with enormous chunks of coal, breaking eleven panes of glass in Skoule's window. Then both men left their legitimate posts of duty and stood up squarely for the official fight which has now become famous in the annals of Slaughter-ville. Thus, blinded by pure and unalloyed official zeal, two great exponents of the same industrial pursuit decided to immolate themselves on the altar of "competition." Neither of them realized that the other meant well. Each mistook the official acts of the other for something antagonistic to himself; each sought to literally pummel the other from a field of labor where the joint efforts of both, each in his own sphere, was absolutely necessary; and so both men exemplified in a small way, the great truth that when public duties lead public servants into fighting, instead of working harmoniously together, the public is the worst sufferer in the end.

Old Dad Skoule had not indulged in a fair fist fight since the afternoon in January, 1869, when the village schoolmaster—a party by the queer name of "Fate"—administered a castigation to Skoule, junior, for organizing what the schoolboys called a "strike" in the school. The rustic pedagogue Fate and the elder Skoule fell into high words over this affair, and finally fought 8 rounds in the playground in seven minutes, much to the delight of the school boys, and although the austere monitor put a terrible nose on Old Dad, the fight was declared a draw. But Skoule had acquired more "science" since then, and had become a little more tricky in his "delivery," so that it was with great confidence that he stood up on this particular occasion before the youthful and brawny, but comparatively inexperienced, Reddy Hank.

On the station platform, in the presence of a vast throng, they faced each other in orthodox style, each, as he fancied in his mistaken zeal, about to fight for the common weal of the general public, and both eager for the fray—Hank, the youthful engineer, with clenched fists and distended nostrils, ever and anon smiling proud defiance, and Dad Skoule, the cantankerous and despotic old skindint, gnashing his teeth in anger and emitting low sounds of dire vengeance. The entire population of Slaughterville gathered around, and never had there been such an excitement—never since a travelling circus with the additional attraction of Jim Mace and Joe Coburn in the final set-to; never since that circus stopped at Slaughterville had there been such overwhelming enthusiasm. The head brakeman of the express train offered odds of nine to four on his engineer, a bet which was at once taken by the village Chief Burgess, who stood by with a sliced watermelon, while the remainder of the spectators passed running commentaries on the "condition" of the enterprising opponents. The conductor glanced anxiously at his watch and saw that their schedule time was up, and that thereby the public's interest was already suffering, but he mentally resolved to let them fight at least two rounds. The first round was devoted by both men to sparring for "an opening," amid the applause of sympathetic admirers. The second and last round was exceedingly brief and very unequal, for Dad Skoule grabbed up and called to his assistance the nearest weapons at hand, which proved to be a white-wash brush and a bucket of newly slaked lime belonging to an aged gentleman of color, who was known as "Old Law." It had been plain to all the local connoisseurs from the first that Reddy Hank was in better "trim" than his opponent, but it now became apparent to the most inexperienced that the unexpected acquisition of Mr. Law's whitewash brush gave Dad Skoule a most formidable "reach." Nothing daunted by this change in the situation, the bold engineer was ready for the second round. He made old Dad's nose feel the weight of his good right hand, and in return Dad dabbed the engineer twice in the eye with the reeking brush, leaving about two quarts of kalsomining liquid trickling down Reddy's breast. Seeing this, the conductor called out "All aboard!" The passengers rushed madly for their seats, the newly painted engineer took refuge in the cab of his engine, and in the midst of wild excitement the

train "pulled out," leaving the official battle still undecided, and each of the combatants with gore in his eye and fairly breathing slaughter.

But it will presently be seen that it was the poor public—that is to say, the poor passengers—who suffered most from the fight. The train left so suddenly, and the rush to get aboard was so great, that eleven of the passengers (including a bride of two hours and eight hysterical old ladies) were left standing on the station platform; thirteen athletic-looking men were crowded off the train after obtaining only an insecure hold, and fell on the track with more or less injury to themselves; seven elderly gentlemen were trampled under foot, and were carried into the freight depot terribly bruised, and the stockholders have since been called upon for an assessment of six dollars each to defend their company against innumerable suits for damages. In addition to these mishaps, the express left without its "orders," and consequently narrowly escaped running into a freight train two miles east; a deacon of the village church was knocked off the platform with a railroad tie which some one threw at somebody else; a gouty old fellow from one of the parlor cars, besides losing his watch, was butted in the condenser by some hard-headed scamp, and sat down violently in a propinuous ditch; and somebody stole a valuable package of money from the Adams Express car. Many of the sufferers from these ill-timed events swore good roundly at Old Dad Skoule (who during the fight had thoughtlessly left his key open, and thus suspended telegraphic communication), but the old man replied not. There was, however, a tear in his eye as he looked after that receding train, and vowed that until he could get one more round out of the new engineer, or drove him altogether from the great field of railroading, there would be an aching void in his heart.

The moral of the Slaughterville encounter is one that can be applied outside of railroad circles, and a careful study of its consequences will enable us all to steer clear of the troubles of that typical dog-in-the-manger, Old Dad Skoule.

WERNER.

The American Rapid Telegraph Company.

There is more "pole and wire" trouble ahead for Mayor Stokley's police. It will be grave and serious trouble, too. These poles and wires have already reached here from Boston, and they are about to take advantage of the open weather to move westward as well as southward, so as to pass through Philadelphia, Baltimore and Washington by the first of the year, in season for Congress, when that body begins actual work. There's no trouble about their moving through this city, for the reason that, with all the iniquities of New York legislators, municipal and State, it is but justice to give them credit for never having defaced the statute book with a law to obstruct the telegraph in any way. The doors of this city have always been as open to the electrician as those of her merchants are to the custom of the world.

Poles and Wires! Why, the poles and wires that the police of Philadelphia have now to contend with are simply pipe-stems and pins to what they are threatened with by this movement from Yankee land; for this truly very extraordinary line (which the projectors and their associate capitalists have been quietly but solidly putting up for the past two months, with so much engineering skill that the poles will all be substantially set up within the next fifteen days) is somewhat colossal in the way of equipments as well as overwhelming in its promised surprises to the press and the public. The poles they set up are of unusual size, all of the best of Canadian red cedar, which has a life-time at least five-fold greater than the chestnut now in general use by telegraph companies. But the most distinguishing feature of the line construction is the quality of the conducting wire, composed, as it is of the best cast steel, instead of iron, and covered by the electro-plating process with a thick coat of pure copper, whereby threefold more tensile strength is obtained, with more than fourfold increase of electrical conductivity, as compared with the average wires now in use. This assures, it is claimed, trustworthy and rapid telegraphing over circuits three times as great as is possible by the best of wires of other telegraph companies. The breaking strain of this steel and copper wire is put at three thousand

pounds, including joints of the same copper, which adds to rather than reduces the tensile strength; a heavy tree could fall on such a wire, and bear it to the earth, and yet the "continuity" would be "O. K., DeSanty."

The breaking strain of the wires now used is only seven hundred pounds. When I questioned one of the projectors as to what they would do to overcome the police prejudices of Philadelphia to all such enterprises, he replied, with a smile suggestive of no grave apprehensions on that score: "We shall only simply ask to go into Philadelphia, and if we are refused or blackmailed we shall publicly say so, leave the city out of the circuit, proceed to Baltimore and Washington, and let the bankers and merchants, the press and the public of Philadelphia settle with the authorities."

The American "Rapid" Telegraph was organized into a company in New York last February, and its whole capital of three million dollars was all subscribed during the following month—when a simple announcement of its organization in the New York journals, with the Hon. Edwin Reed, of Bath, Me., a wealthy shipping merchant, as President; the Hon. Thomas Wallace, of Ansonia, Conn., one of the largest manufacturers of that State, as Vice President, and a small Board of Trustees of equal wealth and respectability—is all that the public has been permitted to know of its business purposes. And even now, six months after this public announcement of the organization of the company, nothing is publicly known of it except that its own machine shop in New York, aided by Colt's extensive machine works at Hartford, Conn., are actively occupied in turning out a large number of novel machines, which are intended to accomplish thirty, sixty, and even ninety thousand words per hour—say from forty to one hundred times more than can be telegraphed over a three-hundred-mile circuit by the Morse system now in general use. From fifteen to forty columns of *The Times* telegraphed in sixty minutes! Your daily has twenty-eight, and the Sunday, fifty-six columns; at this rate there will be nothing to hinder *The Times* from publishing simultaneously at New York, Boston, Baltimore, Washington, Richmond, Charleston, New Orleans, Cincinnati, Chicago, Louisville and St. Louis. I cannot refrain from putting an exclamation mark after this reflection: What a fruitful future for business enterprise this second era of telegraphy—the machine period—opens up!

In the building of their line the company are acting on the principle that Colonel Thomas A. Scott (who, by the way, examined into, and heartily indorsed the principle of "the electro-mechanical system" just before his departure for Europe) adopted when he built the new Market Street bridge, a few years ago, in thirty days; that is, they have recognized the importance of engineering skill in building with celerity and with solidity. The main difficulty with all the telegraph lines throughout the United States at present is that they have been built in a slipshod manner by contractors and speculators, with the aid of uneducated laborers; so that, besides the disadvantages, especially to the commercial public, during stormy weather, they make a costly item on the profit and loss account under the head of "repairs and maintenance." According to the official reports of the Western Union the yearly cost of the company's wires averages about eight dollars per mile of poles, an item which aggregates between \$600,000 and \$700,000 per annum. The Western Union Company and their newly purchased Atlantic and Pacific Company's wires, now run by the Vanderbilt clique, are understood to number about thirty-three between Boston and Washington, about thirty between New York and Chicago, and about twenty between Philadelphia and Baltimore and the southwest, within the range of Pennsylvania, Virginia, Kentucky and Missouri, say about 70,000 miles of wire, which, at the average cost of maintenance, officially reported by the Western Union Company for some years past, would aggregate about \$300,000 per year. By the employment of engineering skill, with the use of Canadian red cedar posts and electro-plated steel wires, the "Rapid" Company claim that they can build telegraph lines that will very rarely, if ever, be out of order, and never from storms, sleet, winds or other atmospheric disturbances. Neither poles nor wires will break down, or the conductivity be interrupted for a moment, so that it will not require even one-tenth part of the sum for maintenance that is required by the existing lines of the Western Union.

Taking all these advantages into consideration—machinery as against hand work and the saving in maintenance—the American "Rapid" company do not now hesitate to state the fact that when the

Washington & Boston line is open to the public it will be possible for them to do a profitable business at ten cents per hundred words, and so on at the same rate, without regard to distance, as the line extends throughout the United States. Indeed, it is confidently expected by them within the next three years to be able to telegraph ordinary business letters to and from all points in the country for ten cents each, and yet, within the recollection of the middle-aged reader, the postal charge on a half-ounce letter from New York to Boston or Washington was eighteen and three-fourths cents, and between more distant points twenty-five cents. Those were the days when the mails were transported by stage-coaches and like conveyances of limited capacity.

It will not require the "Rapid" Company to construct between New York and other cities of the Union more than three of their low-resistance wires to transmit and receive a volume of telegraphing tenfold greater than is now transmitted over all the wires of the Western Union and Atlantic & Pacific Telegraph Companies by the Morse or any other form of hand-key telegraphing now in use. The official reports of the Western Union Company show that the actual average cost to that company by their slow and tedious hand-key system is twenty-five cents for ten-word messages.

There is another important point to be noted just here in this record of the beginning of the second era of telegraphy—a point of vital concern.

"Is there any danger of this new development being 'absorbed' gradually by the monopoly?" was asked of one of the officers of the company.

"We have never made and never intended to make," was the reply, "any appeal to the public, financially or otherwise, until we should be able to prove, practically and reliably:

"First, That we can telegraph, reliably, sixty to ninety thousand words per hour over long circuits, and sixty to a hundred times faster than can be done by the Morse or any other hand-key system.

"Second, That we can telegraph more economically than can be done by any other system, by from seventy-five to ninety per cent.

"Third, That we can telegraph full fivefold more accurately and tenfold more reliably than can be done by any other system.

"Fourth, That we can and will do all telegraph business confided to us, whether it is one thousand or fifty thousand messages per day, with far more promptness than the same business can possibly be done by any other system or company. When the Rapid Telegraph Company is prepared to demonstrate these four propositions, its limited number of stockholders may be prevailed upon to share their investments with a larger circle of the business public, but they will certainly guard against the possibility of a single share of their stock passing into the hands of persons having affiliations with the Western Union or other speculative telegraph companies. A majority of the Rapid Company's stock has been placed in the hands of trustees, with rigid provisions for holding it for five years or more, so that no lease, sale, consolidation, or pooling arrangement with other lines or companies is possible. With five millions of dollars, judiciously expended, the Rapid Company will cover the whole country east of the Rocky Mountains with a network of wires capable of telegraphing tenfold more matter in a given time than there can now be telegraphed over all the existing wires of the country, which represent nearly or quite ninety million dollars."

Twenty-five or thirty years ago Frederick Hudson, then editorial as well as business manager of the New York Herald, predicted that the time would come when no Herald correspondent would think of posting a letter to that paper; wherever he might be, his copy, however lengthy, would seek the telegraph and not the mailbox. If the Rapid Company are to carry out these "distinguishing features," it needs no prophet to predict the not distant day when the business man will no more think of seeking the United States mailbox for a letter than the hurried traveller now thinks of searching for the old-time four-horse coach.

"It is now as certain as anything in the near future," they say, "that by co-operation between the Post Office Department and the American Rapid Telegraph Company the letter correspondence between New York and Chicago, and probably between New York and San Francisco, could be telegraphed at very nearly the same cost that is now incurred in transporting the mailbags between those cities; provided, of course, that the letters were composed in proper form for

transmission over the wires by their authors, and also that the same are translated by the receivers, which can be done by either party as quickly and as accurately, after a few days' practice, as they could write with a pen or read ordinary manuscript—the professional telegrapher having no more ability, in either of these two operations, than any junior clerk in a merchant's office may have, after daily practice for an hour or two for thirty days. Perhaps the most attractive part of the improved system consists in the fact that, by reason of its extreme simplicity, any person having the ordinary intelligence of a child of twelve or fifteen years of age may become a self-taught telegrapher to the extent of at least nineteen-twentieths of the whole work of telegraphing. The youth of the whole country of both sexes may now, with far less effort than was required of them in early childhood to master their printed alphabet, become, at their homes, good telegraphists in the business of preparing or composing telegraph messages for transmission over the wires and in translating and copying the same in ordinary print after transmission—thus leaving to the professional telegraph expert the trifling work of operating the transmitting machine, by which one thousand to fifteen hundred words per minute may be accurately transmitted over a single wire in long telegraph circuits. Again, the exigencies of business often require that telegrams, long or short, should be transmitted in secret cipher, and this new system of composing telegraph messages offers the most admirable facilities for this style of correspondence, causing practically no delay, either in composing or translating the message or letter. The most important secrets may readily be conveyed with more sacred privacy by this new system of telegraphing than they could be if dispatched through mailbags or express packages.

Here is another proposed new feature concerning the press reports, which will interest your night editor. Instead of having to struggle with reams of manifold, the bulk of which is consigned to the waste-basket, he can do his telegraph condensing and editing from New York, having a sip at all the flowers in the bouquet of news. The "Rapid" Company say they can and will, by the marvelous speed in telegraphing possessed by their system, collect daily and hourly, from all parts of this country and Europe, the fullest and most trustworthy details of all news of public interest, and display the same at the company's news bureaus connected with its New York, Chicago and other chief offices. The special correspondents of the press of the country will have free access to these news bureaus, and will be permitted to compile for the journals they may represent such portions of the general news of the world, including verbatim reports of the daily proceedings of both houses of Congress, as they may desire, and the same will be telegraphed direct to the editors of the papers concerned at a speed of at least one thousand words per minute and at a cost not exceeding one dollar per one thousand words, the actual cost of telegraphing by this system, complete 1,000 words, between any two available points—say New York and Chicago, or Washington and Boston—not exceeding about twenty cents. This will assuredly give the opportunity for each and every paper to publish live news of its own and not a duplicate of its contemporaries, and to give a synopsis of Congressional proceedings through its own spectacles without having to submit to any personal partiality or political bias of an Associated Press reporter.

And the cost can be made still cheaper, as the company claim that the system of machine telegraphing is so simple and easily understood that the preparation or composing of press messages may be accomplished by the junior assistants of editors and correspondents accurately, after one day's teaching, and the recorded telegraph characters can, after practice, be translated or read by any person who has even a common school education, just as well and as rapidly as can be done by the most thoroughly educated Morse telegrapher; and those who choose to have this trifling amount of work performed by their own clerks, will save time, assure extra accuracy and entitle themselves to considerable rebates from the established tariffs. So, instead of studying phonography (the use of which has now become obsolete in well-regulated newspapers), the ambitious youth, who sighs for journalistic honors, had better set himself at once to work at studying the composition and translation of this new electro-mechanical telegraph alphabet.

The American "Rapid" Telegraph Company have already started and have in flourishing condi-

tion two training schools, one on Broadway in New York, and the other at Boston, at which persons of both sexes, from twelve to twenty years of age, of good character, are admitted free, in order to fit them to become effective operators in the offices of this company. Pupils may become experts in the business in two to four months, and, when qualified, will be paid from \$15 to \$30 per month. The business is genteel, and but slightly taxes the mental or physical energies of the pupil, of whom the most efficient are enrolled for employment in the order of their graduation. Many thousands of persons of both sexes will find agreeable employment and reasonable remuneration in the cities, towns and villages of the country as rapidly as the company's lines can be constructed. Nor need the practical expert telegrapher be alarmed lest he may be crowded out by "cheap labor." His services will be only the more valuable in the direction of the machinery which will require telegraphers of experience. The "Rapid" Company intend from the start to identify its chief practical employees, as far as possible, as shareholders in its business prosperity—and to this end the operatives will be selected with the utmost care as to character, intelligence and ability. The company is so constituted as to admit of an ultimate large holding of its stock and an influential control of its management by its practical operatives, the promoters of the company fully appreciating the importance of having the practical manipulation of its wires and machinery in the hands of those who feel a pecuniary and friendly interest in its prosperity, in place of the open or smothered hostility or indifference which is known to have grown up, very generally, under the arbitrary management of other telegraph companies, whose favorite "plug" (who is worse than useless in stormy weather) receives \$80 or \$100 per month, while his expert companion, not so fortunate as to be chosen by "the ring," has to do double duty in such emergencies at a pittance of \$50 or \$60. —New York correspondent of Philadelphia Times.

The Telegraph in Norway.

According to *l'Electricite*, the first line of telegraph in Norway was opened in 1854, with an extent of only 35 kilometres. In the quarter of a century which has since elapsed, all parts of the country have been covered by the telegraph system. There are only 227 telegraph offices in Norway, and these are nearly all situated in different towns. Christiania is the only city which possesses more than one. One hundred and three of the offices belong to railways, and are worked mostly with the needle telegraph; but they are open for the service of individuals. The Government offices are not all constantly open; sixteen are open only during the herring and cod fishery season, and are organized exclusively to facilitate that industry by warning the arrival of fish. Parliament has a special telegraph office during the session. The admission of females into the telegraph service has been the signal of a social revolution, and they have since been admitted into Government schools, business houses, etc. The Observatory has a line connecting it with the telegraph system, so that once a month all the clocks are regulated by those of Christiania, and the provision of the weather takes place regularly. None of the communes receiving the daily announcements are required to pay anything. Candidates for the telegraph service must understand English, German and French. There is a telegraphic school where they receive professional instruction after admission to the service. They must have a certificate from the director of the school in order to enter on active duty. The sexes are not separated in the offices, and numerous marriages are the result.

One of Edison's friends writes that "the mysteries of the electric light will shortly astonish skeptical eyes." We hope so; but the friend's assertion sounds very much like the promises made by the Keely motor man every two or three months during the past five years. And the only astonishing thing about the motor is its inability to perform any of the work claimed for it. If the lid, or the roof, or the bay window of the thing would only fly off and put a quietus on its inventor, it would be some encouragement. —Norristown Herald.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

W. J. JOHNSTON, - - - Publisher.

October 15th, 1879.

WESTERN UNION stock is quoted at 94½; A. and P. at 36½; and American District at 72½.

A CABLE dispatch from London, dated Oct. 9th, says that the steamship "Faraday," in the employment of the telegraph company, has again sailed to finish her work of laying the new cable.

J. H. M. asks the price, and other particulars concerning Edison's loud speaking telephone, illustrated in last issue of THE OPERATOR. The loud speaking telephones, however, are not for sale. They are only hired, like the other telephones.

THE London hospitals are adopting the telephone for communication between the fever wards, as by this means all danger of conveying infection is abolished, as the corps of messengers are dismissed who used to carry contagion from ward to ward.

Two companies have been registered in London for the purpose of introducing the American telephonic exchange system. One is called the General Telephone Company, limited, and its capital is \$10,000; the other is the West Riding Telephone Exchange Company, limited, with a capital of \$75,000.

OUR readers cannot fail to see that Werner's sketch in this issue, on the fight between Dad Skoule and Reddy Hank, refers to the recent "war" between the rival telegraph companies, Dad Skoule being the Western Union, and Reddy Hank the American Union. The castigation by Fate in 1869 refers to the Western Union strike in that year.

THE American Union is to connect with the new French cable company, the deep sea section of which is now laid, and the shore end of which the Faraday will reach Newfoundland within a week. The cable will be landed on the shores of Massachusetts. The land line to connect with the cable is now in process of construction. The cable will probably be ready for business about the time that the American Union lines are completed.

WE shall be pleased to receive, at once, personals and other items for the large edition, which we expect to issue November 1st. A copy of that issue will be sent free and postage prepaid to very nearly every telegraph office in the United States and Canada. This is an opportunity for getting up clubs that we hope our friends will not fail to take advantage of. Send postal card for free extra copies of the large edition, and get up a club. The premium is twenty-five cents on each yearly subscription for the paper obtained, and the getter up of the club has the privilege of choosing his own premium.

Machine Telegraphing.

We copy in this issue a portion of a lengthy article that recently appeared in the Philadelphia Times, on the progress of the American Rapid Telegraph Company, and what it proposes to do so soon as its lines are completed. If all that the projectors of the American Rapid Company claim for their new system of machine telegraphing can be practically demonstrated when the lines are built, there is no question but that the advent of of the new company will mark a very important epoch in the history of the electric telegraph. It will be remembered that the new company published a pamphlet at the time of its organization, last February, in which it claimed that the introduction of its new system would completely revolutionize telegraphy. The assertions in the pamphlet seemed so startling that few put much faith in the new enterprise. Its projectors, however, have quietly gone on erecting lines, and making preparations for opening for business, with undiminished faith, and without even giving any information of their progress through the newspapers.

The stock of the company has all been subscribed for by wealthy men, none being now obtainable on any terms, and all the money needed is promptly forthcoming. Those connected with the company are very enthusiastic in anticipating the success of the new system. Mr. Gerritt Smith, the well-known electrician, and Mr. Theodore F. Taylor, who had been assigned by the Western Union to test the system, have both gone over to the new company.

On the completion of its line the American Rapid Company proposes to inaugurate the following six distinguishing features:

1. Express Messages.—A uniform tariff of 25 cents for thirty words or less, including date, address, and signature, to all stations east of the Rocky Mountains, with one cent additional for each word over thirty. Instant transmission over the wires and prompt delivery by special messengers is meant by the word "express."

2. Mail Messages.—Fifty words or less to all stations east of the Rocky Mountains for 25 cents, with one cent additional for five words or less added, to be telegraphed at the convenience of the company, but within one hour, and delivery guaranteed through the Post Office or by messenger within two hours from the date of the message, between eight o'clock A. M. and six o'clock P. M.

3. Night Messages.—Fifty words or less to stations east of the Rocky Mountains for fifteen cents, with one cent additional for five words or less added, to be telegraphed at the convenience of the company, between six o'clock P. M. and eight o'clock A. M., and deliverable through the nearest post office, post paid, by or before nine o'clock A. M.

4. Press Reports.—For exclusive publication in one journal in any circuit of five hundred miles or less, or in any practical telegraph circuit over five hundred miles east of the Rocky Mountains, one hundred words or less for ten cents, and the same tariff for any desired number of words. No one reporter to hold a wire to the exclusion of other reporters over twenty minutes, or, say, twenty thousand words at any one time.

5. Stamped Messages.—It is proposed to use stamps for "express," "mail," "night," and "press" messages, under an arrangement with the Post Office Department, and the public may pur-

chase and use the same with the same convenience as postage stamps are now used for mail correspondence.

6. Street letter-boxes will be made available, under an arrangement with the Post Office Department, for collecting stamped telegrams every fifteen minutes, from 8 A. M. to 6 P. M.

The "electro-mechanical" system of the "Rapid" Company was tested for four months by the Western Union, but that company declined to purchase the system at the price asked. It is said that Mr. Orton had become a convert to machine telegraphing, and, had he lived, the system would probably by this time have been in actual operation on the Western Union lines. After his death his successors, especially the representative of Mr. Vanderbilt, are said to have endeavored to obtain the system several thousand dollars cheaper than its proprietors asked for it. Negotiations were then broken off, and the American Rapid Company formed. It remains to be seen, on the opening of the lines, which will probably be within two months at furthest, whether the only hand-key system of telegraphing, so long in vogue, is to be superseded in whole or in part by machine telegraphing.

The Western Union and American Union Companies, to whom the signal success of the Rapid Company would prove a very serious matter, do not seem to look upon the near completion of the new company's lines with any degree of alarm. They say that the delays and mistakes by the old automatic system—which was about as perfect, they think, as any ever devised—rendered its use very undesirable so long as there were sufficient Morse wires to do the work. The system was good enough, and large volumes of business could be transmitted over it, but very serious delays and mistakes occurred in preparing it for transmission, and in translating and copying it for delivery. The Rapid Company claim, however, that the new system is a great improvement over the automatic, and we shall certainly await with interest the practical test of the system which will follow the opening of the lines.

The American Union Company's Progress.

The American Union has achieved a signal success at Philadelphia. Notwithstanding the opposition of the Western Union, the Common Council has unanimously granted the Company permission to run its wire through that city by the routes selected. The trouble at Elizabeth and several other points in New Jersey, has also been adjusted, the Common Council in the several places voting by large majorities in favor of the new company's line. The work at other points is making good progress, but it is not thought that the lines will all be in readiness to open for business much before the first of December. Since its organization the company has expended for construction and purchase of lines about \$600,000, and erected over five thousand miles of wire. Between New York and Boston and Cape Cod, four lines are in course of erection, the work having been finished to Providence, while the prospects are that it will be completed between Boston and Cape Cod within a few weeks. Lines have been erected or are now building between the following points: New York and Albany, five wires; Albany and Montreal, two wires; Albany and Buffalo, two wires; Buffalo and Pittsburgh, two wires; Detroit and Toledo and Cleveland, two

wires; Toledo, Fort Wayne and Logansport, two wires; Toledo and Cincinnati, two wires; St. Louis and Decatur, two wires; Chicago and Decatur, two wires, about half finished; St. Louis and Kansas City, two wires; New York and Washington, four wires. On the latter line the work is all finished excepting to Philadelphia, in the city of Elizabeth, N. J., and a short section near Rahway. On the line connecting Buffalo and Pittsburgh the work has been finished between Olean and Butler, Pa.

The new company, in its circular to Philadelphia Councils, also makes the following claim: "In addition, we have arranged for various connecting lines which will enable us to transact a general telegraph business between all the principal cities and towns in the territory covered by the limits of Boston and Omaha. Besides we have purchased about one-third of the capital stock of the Dominion Telegraph Company of Canada, and have leased the lines of that company, aggregating about fourteen thousand miles of wire, for a term of ninety-nine years. We have formed an exclusive connection with the new French Cable Company, which has finished laying its deep sea cable, and will finish the Cape Cod section during the month of October. We have made contracts with railroad and other companies, and with individuals, for the handling of a large amount of telegraph business."

The Dominion Company Reducing Rates.

It seems that the rivalry between the two Canadian telegraph companies, the Dominion and the Montreal, is as bitter as ever. Some time ago, it will be remembered, an effort was made to effect an amicable arrangement, by which the companies should "pool" their receipts, after the fashion of the Western Union and the Atlantic & Pacific. Negotiations were broken off, however, owing, as was alleged, to an exhibition of bad faith on the part of the Montreal company. Since then, even after the leasing of the Dominion lines to the American Union, the two companies have been even less friendly than before.

It seems that an understanding had been arrived at some time ago that neither company should reduce the rate for ten words through Canada below twenty-five cents. The Dominion people claim, however, that the Montreal company has violated the agreement in several instances, and has endeavored to supplant the Dominion company in reference to press matter. The Dominion company, therefore, on Monday September 6th, issued posters and advertisements announcing a general reduction to twenty cents for ten words or less on any part of the company's lines. This reduction caused considerable excitement in Canada, and was immediately followed by a similar reduction on the part of the Montreal company.

From the annual report of the President of the Western Union Telegraph Company, published in this issue, it will be seen that the net profits of the company for the year ending June 30th were over four and a quarter million dollars, on a business of ten millions, and that since the consolidation of the companies in 1866 nearly twenty million dollars has been paid in dividends to shareholders. Although over twenty-five million messages were sent during the year, against less than

twenty-four million during last year, the expense have been reduced some \$150,000. In the face of the enormous profit of nearly fifty per cent. of the gross receipts, the Western Union took advantage of the hard times to reduce the salaries of its employees. It is some consolation to telegraphers to know, however, that before many weeks the monopoly of the Western Union as to employing operators will be at an end, and that the company will be compelled to pay respectable salaries to its employees, if it does not desire to see them go over in a body to the enterprising young American Union.

If operators had taken, or would take, advantage of the Western Union in the same manner as that corporation took advantage of them when it had the opportunity—and we are very glad to see that they did not—what a howl we should hear! A gentleman in an official position in the Western Union Company's service, in a private letter to us, says:

"If one thousand strictly first-class men, staunch and true, could be found, who would some day lay down their ultimatum to Mr. H. McK. T.: 'Do this; agree to that; or accept our resignations in ten days.' If the demands were any way reasonable they would be acceded to at once. I'm in an official position, and as such have and owe some duties to the monopoly, and dare not speak as frankly to the boys as I feel; but what fools they are. The company is in a bad fix for help this month, true as the world moves, and the men are throwing away such an opportunity as they never may have again."

We are glad to see that the Western Union is waking up in the matter of salaries. While it has not yet begun any general increase of salaries, it is advising its employees not to accept positions with the American Union until they have consulted with their superior officers. This means that the Western Union, as usual, will not increase salaries until it is absolutely compelled to do so; but will endeavor to keep its best men by giving them a little more than they can get from the new company. This competition cannot fail to benefit operators. The supply is very limited, and we see no good reason why salaries should not speedily go up to old-time rates, which will be a consummation devoutly to be wished.

The recent order making all offices of the W. U. half rate, and no tariff to exceed two dollars is currently believed to be a forestalling of the new aspirant for public favor. A close watching of the official organ will probably shortly discover an excellent article on the tendency of the company to meet the wants of the public in granting greater facilities at cheaper rates, which has always been the policy of the company, etc.

THE *New Jersey Temperance Advocate* is the name of a neat little monthly paper, edited and published by Mr. F. M. Huntington, manager of the Pennsylvania Railroad telegraph office at 526 Broadway, this city. The *Advocate* is published at 171 York Street, Jersey City.

IN reply to numerous inquiries we would say that the proper persons to apply to for positions with the American Union Telegraph Company are D. H. Bates, President, or C. S. Shively, Superintendent, 145 Broadway, New York.

Themes for the Thoughtful.

Books are the welcome companions of the lonely. Life is too short for its possessors to wear long faces.

A room hung with pictures is a room hung with thoughts.

Liberty and work, these are the noblest prerogatives of man.

Peace has made greater conquests than war has ever achieved.

Do good to all, that thou mayest keep thy friends, and gain thine enemies.

Mental growth requires continual attention not to stop in its earliest stage.

If we are faithful to the duties of the present, God will provide for the future.

Do not allow a single day to pass without increasing the treasure of your knowledge and virtue.

Our own hands are Heaven's favorite instruments for supplying us with the necessities and luxuries of life.

To give or take there is a shyness, a reluctance, an avarice, an unsocial apathy, that satirizes mankind.

An angry word is easily spoken, but hard to recall, and always bitterly repented of if spoken to one we love.

Contentment is a blessing, and it is within the reach of all, but it will not be found by him who goes out to seek it.

Be persuaded of this—it is vice that degrades, virtue that elevates, mankind; beauty and fortune are independent and fortuitous.

The thing that makes young people strong is moral courage—high, undaunted courage—or, to put it in a sinewy Saxon word, grit.

As the stillen thunder betokens a rising storm, so are the storms of revolution heralded by the smallest menaces of an oppressed people.

The world is a bee-hive in which we are all hunting for honey; the few are successful, but the many only receive stings and pains in the effort.

The oars of resolution, and the sails of discretion are necessary to make headway up the swift, opposing current that every one must face to secure success.

Hope thrills the heart, and nerves the arm to heroic exertions; despair paralyzes the soul, benumbs the brain, and makes of its victim an unburied corpse.

When you doubt between words, use the plainest, the commonest, the most idiomatic. Eschew fine words as you would rough; love simple ones as you would native roses on your cheek.

There is no fortune so good but that it may be reversed, and none so bad but it may be bettered. The sun that rises in clouds may set in splendor, and that which rises in splendor may set in gloom.

When the ceremonies of a religion are scoffed at, or its ministers despised, it will not be long before its principles will be detested; what is raised by imposition must be continued with increasing art.

Christian faith is a grand cathedral with divinely pictured windows. Standing without you see no glory, nor can possibly imagine any; standing within, every ray of light reveals a harmony of unspeakable splendor.

Out of suffering have emerged the strongest souls; the most massive characters are seamed with scars; martyrs have put on their coronation robes, glittering with fire, and through their tears have the sorrowful first seen the gates of Heaven.

Above all other earthly gifts a good mother stands pre-eminent; she is bound by a sacred tie to her child—one that never can be broken; to the very steps of the scaffold she will follow him, pray for him, and always believe that he was innocent.

Innate politeness and nobility of character show themselves in every gesture, in every accent of the voice and glance of the eye; humble dress and occupation cannot conceal them. Vulgarity cannot put on those high qualities, though it be clad in purple and gold, and housed in a palace.

Western Union Annual Report.

The annual meeting of the stockholders of the Western Union Telegraph Company was held in this city on Wednesday, October 8th. In his annual report President Green says:

The capital stock of the company is \$41,073,410, of which there was in the treasury, belonging to the company at the beginning of the year, \$6,004,835. From this there was distributed to the stockholders \$5,960,608, leaving the amount in the treasury \$44,237, and the amount outstanding on the 30th of June, 1879, \$41,029,183.

The bonded debt at the close of the year was as follows:

Bonds due March 1, 1900, 6 per cent.....	\$971,514.00
Bonds due May 1, 1900, 7 per cent.....	3,930,000.00
Bonds due May 1, 1902, 7 per cent.....	1,373,000.00
	\$6,264,514.00
Less amount of sinking funds and accrued interest thereon, held by the Union Trust Company Trustees.....	126,347.53
	\$6,138,166.47

During the year £2,000 of the sterling bonds, due March 1, 1900, were redeemed by the trustees of the sinking funds.

The revenues, expenses and profits (after reserving amount sufficient to meet the claims of the Atlantic and Pacific Telegraph Company under existing agreements) were as follows:

Revenues accruing to this company.....	\$10,078,897.79
Expenses chargeable to this company.....	5,809,119.46
Net profits.....	\$4,269,778.33

From which there was applied:

For four quarterly dividends.....	2,295,304.50
For interest on bonds.....	400,528.25
For sinking funds appropriations.....	40,056.81
	\$2,765,889.56

Leaving surplus of net revenue for the year over dividends, interest, and sinking funds appropriations.. \$1,503,888.77

From which surplus there was appropriated:

For construction of new lines and erection of additional wires.....	\$138,319.50
For purchase of sundry telegraph stocks, patents, etc.....	145,134.83
For payment of balance unpaid July 1, 1878, on account of purchase of Atlantic & Pacific Telegraph Company's stock.....	537,166.44
	\$820,620.77
Balance.....	683,268.00
	\$4,269,778.33

The net profits of the company for thirteen years, from July 1, 1866, to June 30, 1879, were \$40,203,602.03. During this period there were applied:

For dividends to stockholders (including cost of Western Union stock distributed, and cash dividend payable July 15, 1879).....	\$19,833,206.86
For interest on company's bonds, etc.....	5,018,438.61
For amount reserved for sinking funds, and for interest on bonds, accrued to June 30, but not yet payable.....	106,086.64
	\$24,947,792.11

Leaving a surplus of..... \$15,531,167.16 which is represented as follows:

Construction of new lines, erection of additional wires, etc.....	\$6,518,962.87
Purchase of telegraph lines, and stocks of companies controlled by the Western Union Company, upon which interest or dividends are paid as rental.....	1,643,693.12
Western Union Telegraph Company's stock (413 shares).....	25,705.67
Atlantic and Pacific Telegraph Company's stock (72,010 shares).....	1,806,250.00
Gold and Stock Telegraph Company's stock (47,810 shares).....	1,176,009.00
International Ocean Telegraph Company's stock (10,383 shares).....	961,606.42
Brooks' Underground Telegraph Company's stock (1,000 shares).....	95,000.00
Sundry other telegraph and railroad stocks and bonds.....	50,075.60
Western Electric Manufacturing Company's stock (500 shares).....	50,000.00
Western Union bonds redeemed and cancelled.....	1,329,448.98

Sinking funds (portion not yet used for redemption of bonds, exclusive of interest allowed by trustees).....	110,827.60
Broadway and Dey Street building.....	\$2,295,639.52
Less amount provided from the proceeds of bonds.....	1,802,202.00
	493,437.52
Real estate other than above.....	343,844.12
Supplies and material on hand unissued.....	153,841.37
Surplus June 30, 1879.....	772,469.91
	\$15,531,167.16

Recapitulating this general exhibit in round figures, it appears that of forty and a half millions of net income in the past thirteen years, a little less than twenty millions have been paid in dividends to stockholders; six and a half millions paid for interest and principal of bonded debt; over thirteen millions added to the plant, in the construction and purchase of new lines and stocks in other companies and real estate, all of greater value for the uses of the company than their cost; and three-quarters of a million remain as surplus in the treasury.

The following table exhibits the miles of wire operated, number of offices, number of messages sent, receipts, expenses, and profits for thirteen years respectively, showing the steady growth from the date of consolidation of the telegraph companies in 1866, increasing nearly threefold its miles of wire, nearly fourfold in number of offices, and nearly fivefold the number of messages sent, while the gross and net earnings have each been nearly doubled. The expenses have been steadily reduced since 1873, and were less the last year than for any year since 1872; and though over twenty-five millions of messages were sent during the last year, the expenses were less by \$415,000 than for the year ending with June, 1873, in which year only fourteen and a half millions of messages were sent.

Statement showing the Mileage of Wires, Number of Offices, and Traffic of the Company for each year from June 30, 1866, to June 30, 1879.

Year	Miles of Wire	No. of Offices	No. of Messages Sent	Receipts	Expenses	Profits
1866	75,686	2,250	5,879,282	\$ 6,568,975.36	\$ 3,944,056.63	\$ 2,624,918.73
1867	85,291	2,765	6,879,282	7,004,506.19	3,362,849.32	3,641,716.87
1868	97,894	3,219	7,934,595	7,316,983.34	3,663,116.85	3,743,801.45
1869	104,584	3,607	7,934,595	7,138,737.96	4,910,772.42	2,227,965.54
1870	112,191	3,972	9,157,646	7,631,448.85	5,104,785.19	2,526,663.66
1871	121,151	4,006	10,649,077	8,457,193.77	5,605,863.16	2,790,232.61
1872	137,190	5,237	12,441,099	9,333,198.51	6,755,733.83	2,577,464.68
1873	144,472	5,740	14,456,832	9,262,653.96	6,335,414.77	2,927,239.19
1874	175,735	6,188	16,329,256	9,584,574.66	6,335,414.77	3,249,159.89
1875	179,496	6,565	17,153,710	9,034,958.66	6,335,414.77	2,703,543.89
1876	184,332	7,072	18,729,567	8,312,312.61	6,672,294.94	1,640,017.67
1877	191,323	7,500	21,158,911	8,804,352.33	6,299,323.53	2,505,028.80
1878	206,342	8,013	23,138,874	10,960,640.46	6,161,200.27	4,800,440.19
1879	211,566	8,531	25,070,116			

Of the International Ocean Telegraph Company's capital stock of \$1,500,000, the Western Union owns \$1,038,500, the Company itself owns \$97,300, and other parties own \$364,200. The net earnings of this Company for the year ending June 30, 1879, were \$220,275.50. During the year there was paid regular quarterly dividends at the rate of eight per cent. per annum, and \$73,900 of the bonded debt; leaving a surplus at the close of \$77,062, which was more than sufficient to meet the remaining bonded liabilities falling due October 1, 1879, amounting to \$57,600, which, at this writing, has been paid as far as presented, leaving the company without debt, and a handsome balance in the treasury.

The Gold and Stock Telegraph Company has a capital stock of \$2,500,000, of which it holds in its treasury \$54,450, and the Western Union Company owns \$1,195,250, or a little less than one-half of the stock outstanding. The net earnings of this Company for the year ending June 30, 1879, were \$260,629.65, out of which were paid quarterly dividends, amounting to six per cent., to stockholders, \$35,000 in interest on bonds, and \$45,000 for construction and purchase of lines and patents. The surplus of \$30,500 has been invested in the American Speaking Telephone Co., of which latter Co. the Gold and Stock Co. owns a two-thirds interest, and has the control and management. The Gold and Stock Co. has a bonded debt of \$500,000, maturing May 1, 1885, of which it owns and has in its treasury \$65,000, and the Western Union Company holds \$100,000.

The surplus earnings of the Western Union for the fiscal year were over one and a half millions above what was required to pay dividends, interest and sinking fund. Of this, over half a million, together with the cash surplus at the commencement of the year, were required to pay off the floating

debt created by the purchase of Atlantic and Pacific Telegraph Company stock, nearly three hundred thousand was invested in new property leaving over three quarters of a million as surplus in the treasury.

It will be observed that the later quarterly statements show a large increase in the appropriations for new construction. The increase in business in the last quarter of the year, and in the present quarter since the close of the year, has been so unexpectedly large that additional wires are an absolute necessity on all the main lines between New York and other large business centres, and they are being rapidly supplied.

The first quarter of the present year closed on October 1, and sufficient returns are in to exhibit revenues considerably above the estimate, and render it very much the largest quarter's business ever done by the Company. The present year promises not to fall behind its predecessors in steady increase of revenues and profits.

NORVIN GREEN, President.

The directors elected for the ensuing year, are as follows: Messrs. Norvin Green, William H. Vanderbilt, Edwin D. Morgan, Augustus Schell, Harrison Durkee, James H. Banker, Samuel F. Barger, Joseph Harker, Alonzo B. Cornell, Hamilton McK. Twombly, John Van Horn, Cornelius Vanderbilt, Moses Taylor, Wilson G. Hunt, Edwards B. Sanford, Chester W. Chapin, Robert Lenox Kennedy, J. Pierpont Morgan, George M. Pullman, John R. Duff, Darius O. Mills, Oliver A. Palmer, Samuel A. Munson, David Jones, Anson Stager, Edwin D. Worcester, Henry M. Phillips, William D. Bishop, Hugh J. Jewett.

The only change in the board from last year is the election of Mr. Hugh J. Jewett, President of the New York, Lake Erie, and Western Railroad Company, to fill the vacancy occasioned by the death of Mr. Cambridge Livingston. Much speculation was caused in financial circles by the election of Mr. Jewett, and it was even reported that Mr. Jewett was to be elected President of the Western Union at the annual election of officers, a son of Mr. Vanderbilt to take his, Mr. Jewett's, place as President of the Erie Railway. No such action was taken, however, at the election of officers, and we are assured by a gentleman who has investigated the matter, that there is no present intention of making any change in the officers of the company.

The new Board of Directors met October 10th for organization. The following officers were elected: President, Norvin Green; Vice-President, Augustus Schell, H. McK. Twombly, Harrison Durkee, Anson Stager, and John Van Horn. Executive Committee: Norvin Green, William H. Vanderbilt, Edwin D. Morgan, Augustus Schell, Harrison Durkee, James H. Banker, Samuel F. Barger, Alonzo B. Cornell, and H. McK. Twombly. In the above list, as well as in the other offices, there are no changes from last year.

Free Telegraphy.

The new telegraph company, the American Union, is to bring its lines into the city under authority of an ordinance of Councils, and it may be presumed that the police will not feel called upon to interfere any more with the erection of the poles and wires, at the order of the Western Union officials. It will be as well for these people to understand hereafter that public opinion will not tolerate many more such impudent assertions of their monopoly, and that the Western Union will need to conduct itself, in its future dealings with the public and with its rivals, with a decent modesty. We have no idea how strong an organization the American Union represents, or whether its projectors really mean to carry out their promises of cheap telegraphy; but it is very certain that a repetition of the old story of "consolidation" will be the signal for such action by Congress as will not only put an end to the blackmailing schemes that have interfered so much with cheap telegraphy in this country, but will sweep away at the same time the great monopoly on which the blackmailers feed. The projectors of the new line must understand this, for the very law under which they are acting was a sufficiently plain indication that Congress has ceased to be tolerant of telegraphic monopoly. No thoughtful person can desire that the Government should undertake this business, at least until the civil service has been organized upon a much better system than now prevails; but it is none the less evident that the Western Union has quite exhausted the patience of the country, and that, unless it abandon its policy of crushing out competition, it

may become absolutely necessary that it be itself crushed out.

A great many opposition lines have been started from time to time since the Western Union gained its present controlling position. Some of them have been started with no other purpose than to compel the Western Union to buy them out; others have been projected in all honesty, but have found it more profitable to sell out than to continue business. In either case the Western Union has in due time absorbed them, and the public, the patrons of the telegraph, have had to pay the cost in increased tolls. What with the purchase of competing lines, the payments to blackmailers, and the repeated watering of stock, the Western Union has loaded itself with an extravagant accumulation of so-called "capital," and the interest upon this must be extorted from the public. If its business had been conducted upon a sound and honest basis it might now defy competition by reducing its prices to a minimum; as it is, it doubles the cost of telegraphing, and when competition is threatened it buys or bullies its opponents out of the field and raises the rates still higher. The public cannot be expected to tolerate this sort of thing for ever when there is a remedy within their reach, still less to tolerate the active interference of their own officials in behalf of the monopoly. Mayor Stokely's course in this matter was presumably a blunder, which will not be repeated, but it should be clearly understood by public officials, and telegraph men as well, that there must be a fair field and no favor hereafter. We believe that private enterprise is quite competent to conduct the telegraphic business of the country, and that it would not be in accordance with sound public policy for the Government to undertake such work; but private enterprise must have free scope, and if the Western Union persists in obstructing the lawful enterprise of its rivals, and the telegraph business of the country is to be subject to local interference and private jobbery in every city and town, it is not difficult to predict the result. The people will have the telegraphic facilities which the spirit of the age demands, and the temper of Congress was shown with sufficient distinctness in the telegraph bill of the last session for monopolists and jobbers alike to read the warning. —*Philadelphia Times*.

The Dominion Company's Reduction in Rates.

The announcement this morning that the Dominion Telegraph Company had reduced its rate for ordinary telegraph messages to twenty cents, caused considerable interest in business circles and no little discussion to-day. Montreal Telegraph Company's stock declined some eight per cent. up to today noon on the strength of this reduction in the rates of the rival line.

In an interview on the subject, Mr. C. R. Hosmer, superintendent, said: "My time or your space would not admit of my going into the various causes that led to and culminated in the reduction announced this morning, but our action, as I imagine, been hastened by a serious misunderstanding that has arisen between the head offices of the two companies at Toronto, the particulars of which I am not at liberty to mention. I am, however, free to speak to you about matter that has caused considerable agitation in press and telegraph circles, and which is, I believe, one of the many reasons why our managing director has determined in the future to manage our company as it may best serve the interests of ourselves and the public. You know that our company has, through its connections with the National Associated Press of New York, been enabled to protect the press of Canada from being entirely at the mercy of the Montreal Telegraph Company and the Associated Press, the latter a most arbitrary and exacting monopoly. Well, this suited the press and the public, but not the Montreal Telegraph Company; so they went to work and endeavored to capture the National Press Association's despatches, and run them in the interest of the monopoly, and had Mr. Swinyard not managed to checkmate them, the press of Canada to-day would have been at the mercy of a monopoly. Our people think that the time has arrived, or is about arriving, for our company to advance from the second place it has heretofore held to the first position. We have, since the first of July, been improving our lines and enlarging our facilities in every direction, and with our superior cable and marative province connections, and the prospect of a live connection in the States, we feel that we can divide the public business with the Montreal

company, and shall not be satisfied with anything short of it."

"Do you think a twenty cent rate can be made to pay?"

Mr. Hosmer thought twenty cents would pay them better than twenty-five cents would pay the rival company, as their capital stock was less and their facilities as great, while their expenses were much less. —*Montreal Witness*.

A Useful Invention.

A London engineer has recently patented an ingenious device, by means of which passengers may know with certainty the station the train is about to enter. The manner in which this is accomplished is very simple. In each compartment of the railway carriage there is a dial resembling the face of a clock, upon which is painted the names of the stations on the route. A hand or pointer connected with an electrical arrangement is caused to move round the dial when a current passes through the instrument, which current is automatically sent in this way: Upon the other side of the step-board of the first carriage composing the train is pivoted a small arm connected with a battery or other source of electricity, and as the train enters the station this arm strikes against a peg inserted under the edge of the platform. The arm is thus pressed back, and a current is sent through the wires and indicators, causing the pointers to show the station reached. The arrangement described is said to be admirably adapted for the metropolitan lines of London, and would be equally suitable for the elevated roads of this city, where the carriages are permanently coupled, and constantly travel the same road. Where carriages are separated, and for long journeys, a modification is necessary. As the proposed system is simple in action and inexpensive in application, there is no reason why it should not soon come into extensive use. The name of the station being shown in the compartment of the railway carriage, it is to be hoped that ere long the indistinct calling of brakemen, and the confusion and uncertainty frequently witnessed at stations, may become things of the past.

Lightning Rods.

In an interesting article in the *Building World*, it is stated that there is in Carinthia a church which was so often struck by lightning that at length it became the custom to close it during the summer months. This continued until, in 1778, the church was rebuilt, and provided with a suitable lightning conductor, since which time the building has been struck but few times, and has suffered but little damage. It was at one time held that the best way to protect a building was to repel the lightning from it, and as glass is one of the best non-conductors, a thick glass ball was placed upon the top of the spire of Christ Church, Doncaster, England, but in 1836 lightning struck the church, shattering the ball, and seriously damaging the spire. The carrying out of a theory which in this case proved so disastrous has had a happier result in the Houses of Parliament, London, where Sir W. Snow Harris, who was charged with protecting the building, carried the flat copper bands which were used for lightning conductors behind the plastering of the walls; and Faraday caused a spiral channel, following the course of the stairs from top to bottom, to be cut in the granite of the lighthouse on Plymouth breakwater, in which was laid a massive copper lightning rod. One of the best instances of what may be called natural protection is afforded by the London Monument. This column, some two hundred feet high, is crowned by a bronze flame, which typifies the great fire of London; this flame is in contact with the bars of the iron cage in which it was found necessary to inclose the balcony at the top, to prevent persons from throwing themselves over, and the bars in their turn connect with the rail of the balcony, and the hand rail of the staircase which descends to the ground. It is useless to try to insulate the vane spindle or finial upon a tower or spire by using glass rings; it is better to make this rod the upper part of the lightning conductor. The earth end of a lightning conductor should be carried to continually damp earth or running water, but not to a stone-lined well or cistern.

Censuring the Western Union.

The last chapter in the telegraph war was enacted in the Police Court yesterday afternoon. Charles Candee, the man who cut the wires of the American Union Telegraph Company, withdrew his former plea of not guilty, and pleaded guilty to a charge of malicious trespass. In passing sentence, Justice King said that he only wished the person he was addressing was superintendent Gifford, and he would make the fine as heavy as the law would allow. He did not so much blame the prisoner for his offense, but he blamed the company that instructed the man to cut the wires. Nor did he blame either Mr. Tillinghast or Mr. Hucker for any action which they had taken in the matter, for they were acting according to the orders of superior officers. He considered the conduct of Mr. Gifford very disgraceful. In imposing a fine of \$25 on Candee, he considered that he was fining the company for an offense for which Mr. Gifford was responsible. —*Buffalo Express*.

Dashes Here and There.

Another quad has been added to the Kansas City office within the past two weeks, making the sixth set. It is a new pattern, and very pretty in appearance.

Japan began to use the electric telegraph in 1869. It has now 125 stations, with 5,000 miles of wire. More than 1,000 miles of wire will soon be added to the telegraphic system of the country.

A new telegraph wire, especially applicable for military lines, is being made and tried in Germany. It consists of a compound iron and aluminum wire, combining lightness with strength and conductivity.

There is a popular belief that the brains of the business is monopolized by the chiefs and managers. It might be well to add, however, that this opinion is entertained almost exclusively by the managers and chiefs.

There are men in the service to-day who look upon the book of rules published upward of ten years ago as a complete guide in every possible emergency. Such fossils ought to be retired to their rightful obscurity.

When the small managers communicate with the big chiefs then heaven defend the poor operator. He or she must not presume to know anything about the business that conflicts with the opinion of these walking encyclopedias.

When a man of intelligent appearance steps into an office, and in good handwriting puts himself on record thusly: "You kneed not come," isn't it justifiable to suppose that he stands sadly in need of a short spell of training by a schoolmar.

And now the war has begun in earnest. Orders are already flying around to drop off five cents here and there on rates that have heretofore been 30 cents. The men who keep the tariff book correct, will have their hands full for some time to come.

The great inventor of Menlo Park has apparently given up his laboratory and tools and betaken himself to his library and pen, dropping the electric light for the electrifying thought. Henceforth his motto may be "Lecture light so shine," etc. —*Chicago Journal*.

Professor Klinkerfues is said to have perfected another octoplex apparatus. We fear the professor is about fifty years too early, and that he will not succeed in superseding quadruplex. By the end of the century we shall have a "plex" represented by 2ⁿ, n being at present the unknown quantity. —*Electrician*.

A convention recently concluded between the Governments of England and France fixes the rate of charge for telegraphic messages between the two countries at 20 centimes—4 cents—per word. Negotiations have also been commenced with Spain, Italy, Switzerland, and Belgium for the establishment of a fixed telegraphic tariff.

When it had been definitely decided upon to make the division of seventeen per cent. scrip dividend, Jay Gould, it appears, invested very heavily on a margin in W. U. stock. After the spoils had been apportioned that same gentleman rapidly unloaded, realizing, at one stroke, somewhere in the millions. This was surely bad enough, to have their worst enemy draw their hearts' blood, but it became the refinement of torture when he immediately disposed of the same in furnishing the materials of war for the equipment, and placing

in the field of their opponent the American Union. With these facts in view, the battles of the poles may be observed in their true light and bearing.

A London diamond merchant has published a small pamphlet on "Electricity as an Agent in the Household," in which he states that he has completed a standard electric clock which goes correctly by means of three cells. He also employs the electric light to illuminate his shop window, as he finds that it in no way alters the color of gems. A diamond that is decidedly "off color" will under any ordinary gas-light pass as a white stone, and, in fact, is often more brilliant than one purely white; but not so under the electric light, by which the most ignorant could detect the light straw shade which is, for example, so familiar to us in the Cape diamonds. This advantage of the electric light will, therefore, be felt both by the public and the diamond merchant, who will be able to do business after nightfall.

Echoes from 197 and City Items.

It's about as easy to turn some of the old men out of the grooves they have got into as it is to pick up an elephant.

We are pleased to learn that Mr. W. J. Dealy has been appointed manager of the American Union general office in this city.

When a man sends J. T. Brown, for J. T. Burr, it is about time for him to begin and burr-ow the earth with a plow and a pair of oxen.

The familiar expression, "We have more men than we know what to do with," is once again heard in the big room, and the vacant chairs are becoming more numerous.

When a lady, in a fit of abstraction, puts it down, "Send carpets to *Mathew* old ones," is it not reasonable to suppose that she has been conning over in her mind the probability of her being able to strike a match with Mathew?

An application for an attachment for contempt against the Western Union Telegraph Company was made on Friday by Mr. Clinton G. Colgate, who alleges that the company has recently leased cables across the North and East Rivers to several parties, in violation of the injunction granted January 13th, 1879.

A pathetic picture may be observed soon with the aid of a little imagination. The Executive Committee in a supplicating attitude, eyes straining with tears, and piteously exclaiming to the departing quarterly divy: "Oh! return, sweet phantom, and leave us not," while the despairing young vice-president bows his head in silent anguish behind the door.

It is reported that several expert operators have recently been discovered disguised as Italian organ-grinders, plying their trade at night. On one of them being recognized and asked for an explanation of his singular proceedings, he replied: "The American Rapid, my boy! The American Rapid! Revolution at hand! Morse system out of date! Go you and do likewise, and get your hand in time! The crank's the thing!"

It would seem that the gentlemen are not the only ones addicted to the habit of relating the wonderful performances they have gone through. Not a great while ago one lady composedly informed another that when she worked a certain heavy wire she did not break once in five weeks, and then she was obliged to, because the chief was having some conversation with her. It is barely possible that she got the weeks and minutes somewhat mixed, but she never smiled during the recital.

William H. Vanderbilt, the principal holder of Western Union stock, has filed with the Building Department the plans for his new mansion on the corner of Fifth Avenue and Fifty-first Street. The mansion will not be excelled by any in the United States. It will consist of two dwellings, one single and one double, and will occupy the entire space between Fifty-first and Fifty-second Streets fronting the fashionable avenue. Exclusive of the cost of the land, the dwelling is to involve an expenditure of \$700,000. The fronts will be of brown stone in the French Renaissance style, three stories and a half high. Vanderbilt is ambitious to own the finest dwelling on the continent, and it is more than likely that he will expend \$1,000,000 on it. He is reported to be looking over Coney Island with the intention of spending \$2,000,000 to \$3,000,000 on hotel property and running a railroad to it.

PERSONALS.

Mr. G. N. Welden has been appointed night operator at Provincetown, Mass.

F. O. Nourse, of Littleton, N. H., has accepted a position as operator in the Springfield, Mass., main office.

Mr. Robie McLearn, of Halifax, N. S., has been transferred to St. John, N. B., and Mr. R. A. Mitchell from St. John to Halifax.

Miss Emma Burton has had charge of the Western Union telegraph office at Danielsonville, Conn., during Miss Shumway's vacation.

We are glad to be able to report that no new cases of yellow fever have occurred among the telegraphers of the South since last issue. Neither have any deaths taken place.

Thomas Swinyard, of Montreal, Vice President of the American Union Telegraph Company, advertises in the Montreal papers for 5,000 telegraph poles for immediate delivery at Portland, Me.

Miss Flora Stafford, operator at Plainfield, Conn., who has had a vacation of two months, returned to her duties Oct. 1st. During her absence the office was in charge of Miss Carrie Brown, of Kingston, R. I., who carries home with her the best wishes of a large number of her new-made friends.

During the month of September, the following have been added to the Kansas City, Mo., Western Union force: G. W. Gardanier, late of Ogden, Utah, E. P. Cronin, Harry S. Austin, B. W. Stoddard, the latter Oct. 6th, from the dispatcher's office, C. & A. R. R., Mexico, Mo. H. C. Burton, J. D. Cameron, and Al G. Haight were ordered on the "discharged" list, for engaging in fraudulent "option" schemes here.

KANSAS CITY, Mo.—F. J. Buckley is working extra. Henry R. Wood represents C. N. Lander, who is in the Sister's Hospital with a fractured thigh, caused by a fall. This is a sad misfortune to Mr. L., as he has already lost one leg. E. P. Cronan has been added to the force. G. W. Gardanier relieves J. L. Horne, who has accepted a position in the Superintendent's office of the K. C. L. & S. and K. C. F. S. & G. Railroads.

Among the visitors to Fredericksburg last week were Messrs. Walter P. Phillips, manager of the Associated Press at Washington, and Albert L. Suesman, of Providence, R. I. After a lapse of seventeen years Mr. Suesman and his friend came to visit the scenes rendered interesting and historical in the fading past, when Burnside commanded the Northern army and engaged Gen. Lee's forces stationed on Marye's Heights and stretching for miles in both directions. Mr. Suesman was a member of the Twelfth Rhode Island, and his regiment crossed by the pontoons on December 12th, and took part in the engagement on the day following.—*Fredericksburg (Va.) Star*.

COUNCIL BLUFFS.—Among the various matters of importance which have transpired in our midst of late, we would mention the Telephone Exchange which now connects this city with Omaha, a western suburb. It is considered by all a great improvement. The wires of the Council Bluffs & St. Louis Short Line are being put up rapidly. We have not yet heard who the Superintendent of Telegraph will be. The company has secured the services of Mr. Henry Ames, formerly cashier of the C. R. I. & P. R. R., as general Western agent. In this they have undoubtedly acted wisely. We are looking for the American Union daily; at the mention of the name a smile illumines the countenance of the Western operator. A new arrival in the shape of a plug factory has made its appearance, this time at Des Moines, under the management of Messrs. Griffith and Heiny. As regards the caudal appendage of this firm we can say nothing, this, we believe, being his first appearance. Prof. Augustus Julius Griffith, A. M., LL.D., has, however, a wider reputation, having occupied the position of clerk and operator for the C. R. I. & P. R. R. for some time, to the disgust of good men. Messrs. Bailey, Whitehall, Horton, and Meak are left to uphold the reputation of Des Moines. The latter gentleman has just returned from the East, bringing a wife. He has the hearty congratulations of all. OGLESBY.

MILWAUKEE.—M. W. O'Ryan, who has worked for the Western Union for the last twenty years, has resigned to become a partner with J. Pollard, of the Cream City Courier, of this city. The boys all wish him success. Miss Julia Wirt, who has been manager of the N. Y. Telegraph Office at Plymouth, Wis., for several years, has resigned. Mr. Rogan takes her place. Her absence

is felt by all the boys on the line. Owing to the large increase of business in the Green Bay Office Manager Hall found it necessary to have an assistant. B. W. Wells, of Milwaukee, is the fortunate one. Messrs. Kerren and King, of Chicago, have been added to the Western Union force here, the former filling the vacancy caused by the resignation of Mr. O'Ryan, and the latter filling Mr. Wells' place. M. W. Addis, who has been working for the N. W. for the last year, has resigned to accept a position as general freight agent of the C. M. and St. P. R. R. at Racine, Wis. A. H. Allen, of Gifford's, takes his place. A new office has been opened at Marion, Wis., a little town on the M. L. S. and W. Ry. Mr. Blodgett, formerly train dispatcher at Steven's Point, is in charge.

EAST SAGINAW.—Business in Michigan and the west is booming. The wires are crowded to their utmost capacity, and once more, as of yore, the demand for good operators is greater than the supply. Rumors have even reached us of increased salaries in the large cities, but we quarantine our expectations for the present against such hearsay, and, out of respect for sensitive feelings, decline to report the supposed so infected districts. These reports seem particularly questionable, as we watch the "old reliables" constantly dropping the service they have followed the better part of their lifetime, to take up other pursuits, probably more tasteful and with better purse prospects. Mr. Jay G. Hall, of East Saginaw, resigned the management of the W. U. Telegraph Co.'s office at that place Sept. 10th. He had been in that company's employ upward of fifteen years, having held different important positions, and leaves them to take charge of the telephone lines in the Saginaw Valley, which have become quite extensive and popular, as did anything under his management. The Saginaw citizens and operators, with whom he was a great favorite, wish him a grand, life-long success in his new field of labor. The latter, as a reminder to that effect, presented him with a heavy gold headed cane, beautifully engraved with: "Present to Jay G. Hall, Esq., by the East Saginaw Telegraphers, Sept. 10th, 1879," and with his monogram, "J. G. H.," also cut thereon.

MARRIAGES.

TWESBURY-VAN WORMER.—Sept. 16, at the residence of the bride's uncle, Great Bend Village, Pa., by Rev. R. N. Ives, Mr. E. M. Twesbury, agent and operator, Clark's Summit, Pa., D. L. & W. R. R., to Miss Lida Van Wormer.

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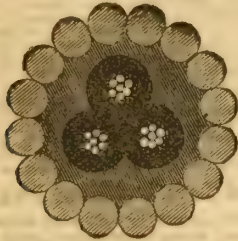
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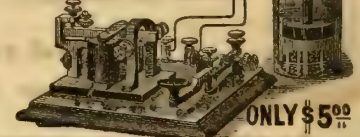
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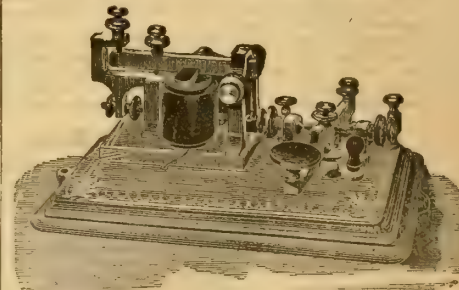
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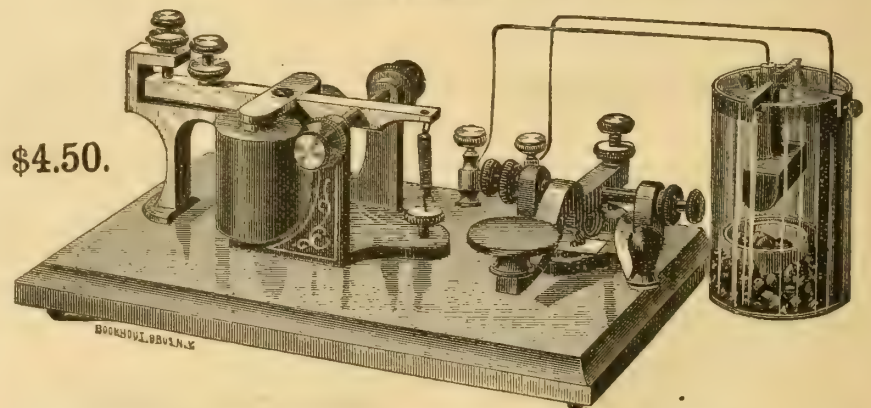
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THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

November 1st, 1879.

Volume X.

Whole No. 137.

Wired Love.

'Twas by wire electric laden
That I pressed
My suit upon a maiden—
I was blessed!
What I murmured in her ear,
O'er the wire, so far, yet near,
May be guessed.

We were strangers, yet I knew
That her face
Rivalled rosy dawn in hue;
And the grace
Of her sending sweet distilled,
And my raptured senses thrilled
Grew apace.

Oh! the music of her Morse
Thrilled me through,
And her absence would, of course,
Make me blue.
How I trembled when she called:
Charmed, bewildered, crazed, enthralled—
So would you.

Why do bright dreams ever fade,
Leaving chills?
Why are bitter doses made
Sugared pills?
Why so near and yet so far,
Almost through the gates ajar,
When it kills?

I called upon my charmer,
Found her in,
Talking to a clownish farmer,
'Twas a sin.
"I am married half a year,
To this gent a-standing here;
Wait a min.!"

Economy of Electricity.

During a recent lecture in Sheffield, England, on the subject of electric lighting, the lecturer showed that the saving in lighting, heating and motive power in Sheffield alone would be something enormous were electricity adopted. He stated that the cost of using gas in Sheffield for the lighting of streets, public buildings and factories, could be halved if electric currents generated by water engines worked by hill streams, as well as by very large steam engines, were substituted for gas. And if they added to that half of what it cost forges for heating purposes, by substituting electric currents generated by very large steam engines at certain points, and with turbines driven by the falling water outside the town, they would effect a saving at the rate of \$225,000 a year; and if the cost of producing motive power could by the same means be halved, they would represent an annual saving of something like \$300,000.

But this saving he believed would be much larger, since not only could power be produced much more economically than by small steam engines, or even by a large one, when a large proportion of its power was, as now, wasted in driving the shafting alone in their factories; but in addition to that, much hand work could be economically replaced by machine work. And if the consumption of coal in Sheffield for heating their metals and houses could be halved, then there would be another saving of about \$1,500,000 a year, or altogether there would be an actual saving that could be effected in Sheffield alone, by substituting electricity for coal, of something like the large sum of \$2,000,000. This shows, with even our present knowledge of electricity, how

really economical it is as against coal, and that it must ultimately be made available for purposes for which coal is now solely used.

Steam for every purpose can be superseded by the force of electricity, for we find that last year two French engineers, MM. Chretien and Felix, plowed fields by electricity, the current having been produced by two dynamo-electric machines of a form invented by M. Gramme. Those machines, it appears, are usually worked by a steam engine at some convenient place 300 or 400 yards away, and the electric metres were also two Gramme machines—one on each side of the field—with their coils revolving backwards. Through one of these an electric current was sent alternately, so that motion was given to one or the other of two large windlasses, one on each side of the wagons containing the electro-motors.

A Touching Incident.

An elderly man, obviously indigent, came into the office the other morning, holding in his hand a crumpled bit of paper. "On one of our blanks, please," I answered, half in reply to his appealing look, "On one of our blanks, please; can't send it without"—and the tottering gentleman turned away



"Fumbling in his vest pocket, the gloomy old gentleman produced a worn and battered fifty-cent stamp, and handed it to me."

to the desk at which I pointed, to follow my direction. A few trembling pen-strokes—between which he seemed to pause as if he were losing his breath, while I noticed suspicious drops falling from his eyes upon the paper, which he carefully wiped away—a few strokes of the pen, and he returned and stood before the window, handing me the telegram, which I took in my usual indifferent way, and began to count the words, without minding what their sense was.

"Forty-five cents," I muttered, after a moment's counting; and fumbling in his vest pocket the gloomy old gentleman produced a worn and battered fifty-cent stamp and handed it to me, while I checked the telegram with certain cabalistic marks, which betokened a certain cabalistic something to the superintending business-man.

"Read that, please," said the man appealingly, and in a broken voice, "and, if you can, have it forwarded immediately."

I looked up, arrested in attention by the breaking voice in which he spoke. Then I looked down and read:

"If mother is yet living, kiss her for me. I am too poor to come."

A name, a date, a direction—these completed the message. Short enough, simple enough, explicit enough so far as it went; but there was a great deal more in it than it said. The man's mother was

dying, and he would kiss her before she went, but was, alas! too poor to afford the luxury of a kiss, except in that strange, proxy way—by telegraph.

I looked up again. The man was in tears; and this time the water in my own eyes was suspiciously near to overflowing.

"It shall be sent immediately, sir," said I, with a lurking tremor on my tongue, and a queer substance seeming to block up the passage of my throat.

"Thank you, sir. God bless you," was the reply of the gloomy gentleman; and with a long breath he took up again the common thread of his existence, vaguely hoping, no doubt, to weave a better woof before he should be kissed his last. P.

His Assistant.

"We will send you an assistant to-morrow," Harry Clinton wrote down these words, as they came rattling over his sounder, with a flourish of the pen, and an expression of deep satisfaction.

"It is time," he thought, as he gave a jubilant "O. K." and then glanced around the office.

"Railroad business and book-keeping, besides half a dozen wires and two telephones to look after, is altogether too much for one unfortunate mortal. An assistant at last! Glorious! But it has taken a vast amount of pen, ink, and paper on my part to get him. And now I may possibly have time to breathe occasionally, and even to look pleasant now and then. I notice that I have been developing a terrific scowl during the past few weeks;" and he glanced at a small, much-begrimed mirror hanging just over his head, which, notwithstanding its dirt, reflected a good-looking young face, upon which might be traced the outlines of a possible frown.

But the frown entirely vanished as his eyes returned to the just-received message, and a smile came in its stead. Then forthwith he began cutting the list of his daily duties into two parts, the least pleasant of which he, naturally enough, labeled "assistant's work." For is not an assistant he who does the most disagreeable of the work and gets the least of the money? So Harry Clinton, as he in imagination bade farewell to wire No. 12, that bane of his life, the paradise of beginners and bad operators, chuckled to himself, even as he thought, remorsefully:

"Poor fellow! I wonder, by the by, what sort of a man he will be—a pleasant, good humored person, or a glum, perhaps tobacco-chewing wretch? Well, to-morrow will tell the story."

Earlier than usual the next day Harry was at his office making the final arrangements for his expected assistant. He decided that the best place to locate him was at the small desk in a sort of alcove, where were the telephones and instruments that could be switched upon any wire at will. Here he brought everything necessary, then glanced at a comfortable chair and a very hard stool, the only seats in the room, and hesitated. It certainly seemed selfish to keep the chair himself. Why couldn't the company have afforded the office two chairs? And yet his assistant would hardly expect him to give it up and take the stool. He finally placed the latter before the alcove desk, with a resolve to petition for another chair.

He had hardly done so before the door opened, and, turning, Harry saw, instead of the person he expected, a young lady with a somewhat embarrassed manner and a pair of pretty blue eyes.

"Excuse me," Harry said hastily, with a polite bow, "if you wish to send a message you will find blanks on the shelf outside."

The young lady blushed and seemed more embarrassed than ever, but, instead of retreating, she advanced still further into the room.

"I did not wish to send a message," she replied. "I—I believe you were expecting me."

Harry stared with all his eyes. To his certain knowledge he was expecting a visit from no young lady on earth. His only female cousin was far away, he had no sisters, and as for other young ladies—well Harry, as a rule, did not affect the society of young ladies much. He had a very singular idea that they expected a man to flatter them all the time, tell them they were angels, or words to that effect, and, being a very honest young gentleman, he did not feel himself quite equal to such tasks, and rather shunned the fair sex; so that now to have a strange young lady drop suddenly upon him at 8 o'clock in the morning, and "believe he expected her," was quite startling.

His astonishment was too evident to escape the observation of his visitor, and she added, hurriedly: "Perhaps there is some mistake. Are you not Mr. Clinton?"

Harry acknowledged his name by a bow, really unequal to doing it verbally.

"Then it is all right. Here is a letter for you from the superintendent. I am to be your assistant."

"What!" exclaimed Harry, with an emphasis that evidently was startling to the young lady. She drew back and looked at him doubtfully.

"Were you not expecting me?" she asked.

"Expecting you? No!" exclaimed Harry; then recalling himself, "That is—I—yes—I was expecting an assistant; certainly."

"Will you look at the letter?" she asked, exceedingly puzzled by his peculiar behavior.

"Oh! I beg your pardon, of course," answered Harry, taking the document she held out, and feeling, as he broke the seal, as if he had come in contact with a dozen electric batteries.

"The bearer, Miss Elsie Walton, will be your assistant. Please instruct her in the duties of the office."

It was true then. Not the cheery, pleasant fellow for whom he had hoped, nor even the tobacco-chewing wretch he had dreaded, but—a young lady! He felt a strong inclination to tear his hair, but common sense suddenly suggested that she was still standing, and instead he had better offer her a seat, which he did—his own particular chair—and while she, accepting it, commenced taking off her gloves and hat and preparing for work, he sank upon that hard, hard stool, and, under pretence of adjusting a relay, communed with himself. He could endure to resign his chair, to make out a new division of labor, to have the looking-glass washed—for she was already casting scornful glances at its dirt-covered surface—but—she was a young lady! Yes, and a pretty one, as a stealthy glance assured him, and she would naturally be talking nonsense at him or making eyes in his direction, trying to flirt with him in all the pauses of business, and such things he could not endure!

This idea did not arise, be it said, from any self-conceit on Harry's part, but simply on account of a hallucination that had somehow taken possession of him, to the effect that a like course of conduct was invariably pursued by every young lady whenever she came in contact with the sterner sex. And appalled at such a possibility, he then and there laid down for himself a course of action that should prevent anything of that kind. He would stand upon his dignity as manager of the office. He would be pleasant, but never social, and always matter-of-fact and business-like. Having made this resolution his brow cleared, and he turned toward his assistant, feeling quite equal now to "instructing her in the duties of the office."

It was, perhaps, somewhat to his surprise that he found Miss Walton quite as business-like as himself. In truth, she was even more so, for he, in his anxiety, entirely overdid the matter, and succeeded in making himself disagreeably stiff and unnatural.

In this uncomfortable state he passed an entire week, and then, finding that his assistant was proving a valuable one, and that she was exceedingly demure, and showed not the least inclination to flirt, he began to feel easier in his mind, asked himself if she might not be an exception to most of her sex, ordered a new chair on his own responsibility, and—whistled. And still Miss Walton worked on sedately, and no social words passed between them.

It was just as Harry was settling into this more resigned state of mind, and was even allowing himself to think that a pretty face at the other end of one's office was not so bad after all, so long as that pretty face minded its own business, that, one evening when working on No. 16, he was surprised to hear some one on that wire ask: "Is it true that you are a woman hater, H. C.?"

Who could possibly have asked such an impertinent question? It was plainly directed to him, for H. C. was his sign. Had Miss Walton heard? He glanced quickly over his shoulder in her direction. No, she was hard at work. He could not tell exactly at what, so many noisy sounders clattered around him, but she was certainly intent on her own affairs. Thus assured he, contrary to his usual habits, prompted both by pique and curiosity, responded to his interlocutor on No. 16:

"Who dares to make such an assertion?" he asked.

"One of the sex," was the prompt reply, "and I think it very sad that you should have such horrid old bachelor ideas so early in life."

"What do you know about my ideas?" he questioned, with rising wonder. "You are promulgating some very strange sentiments regarding my humble self."

"Strange, but true," answered the unknown, in

very firm, clear Morse characters. "Take my advice and cultivate the society of young ladies. You will find that they are not the terrible creatures you imagine."

Harry began to feel angry, but recollecting that that would only make matters worse, he said to this puzzling unknown:

"Thank you; may I begin with yourself?"

"If you can find no one nearer," was the reply.

Harry was about to inquire how near she might be, when K office broke in and began calling, decidedly to his annoyance. Who could it be that knew so much about him? and how did she find it all out? Would she speak to him again?

Wire No. 16 began to have a particular interest for him, but it was two or three days before the unknown made any further manifestation of her existence, and then she inquired, saucily:

"Well, H. C., are you ready to cultivate my acquaintance?"

Only stopping to assure himself that his assistant was unobservant—or rather that her ears were elsewhere—Harry immediately responded, and then followed a conversation in which he was utterly nonplussed and confounded by the knowledge his correspondent displayed of his character, and even of his daily habits, but found himself no nearer the solution of the question who she was. It is needless to say that this conversation was followed by many others, in which the unknown young lady alternately puzzled and interested him, and, to his surprise, he eventually found himself possessed of a strong desire to know her personally; and then he became angry with himself. What a fool he was! The idea of his wasting so much time talking to a girl, and to a girl who might be, and ten chances to one was, snub-nosed and freckle-faced! He called to mind the experience of a brother operator, who once fancied himself really in love with a lady whom he knew only over the wire, and went one day fifty miles to look upon her, only to find her a stout, red-faced matron, and the mother of three boys!

If he could only ascertain how this young woman obtained her strange knowledge of him, Harry thought he would "break" the habit of talking so much with her—and yet it was very pleasant, too.

All this time his assistant had gone on her quiet way, knowing nothing of all this, so far as he could ascertain, and he certainly took every precaution that she might not. It would be a death blow to his assumed dignity should she find him engaged in such a very undignified pursuit as talking over the wire!

One evening, however, while thus engaged, and trying to make the unknown commit herself in some way, that he might have a clue as to who she really was, he chanced to glance suddenly in Miss Walton's direction, and to his surprise saw that her eyes were sparkling with fun, although she was bending over her sounder as demurely as ever.

Had she heard? Harry bit his lip with vexation, but resolved to know if she was listening, and so, asking some commonplace question of the unknown, he narrowly watched his assistant from the corners of his eyes. She, however, seemed to be intent on her own sounder, and then placed her fingers on her key and wrote something, and simultaneously the answer of the unknown came over the wire to him.

Then a sudden horrible suspicion rushed over him. He asked some vague question on the wire, then quickly shut off every other instrument in the office, and awaited a reply. But none came.

His assistant looked around at the sudden silence. Their eyes met, and Miss Walton burst out laughing. Harry arose and strode to her side.

"It is you who have been doing this!" he exclaimed, making a hasty examination of the instruments on her desk. "You have switched in on No. 16, and have been making a perfect fool of me all this time!"

Miss Walton looked at him with the blue eyes he had always seen so demure, dancing with mischief.

"It was such fun!" she cried, with what the wrathful Harry deemed bare-faced insolence; "and to see you sitting there and trying to keep it from me, and being so agreeable on the wire and so dreadfully dignified to me in person!" And she laughed again.

But Harry did not laugh. Never in the course of his life had he been so infuriated. To have been duped, and then laughed at, by a little blue-eyed woman to whom he had been at such pains to stand on his dignity—it was too much.

"You have done a very impertinent and most unlady-like thing!" he exclaimed, looking at her sternly, quite pale with indignation. "Although I

am not a ladies' man, I have always treated you like a gentleman!" And seizing his hat he turned on his heel and left the office, entirely oblivious of the fact that it was half an hour before he had any right to do so.

"Impudent little chit!" he thought, as he walked along, kicking the unoffending sidewalk savagely as he went, "how dared she! And then to actually laugh at me! It is indeed true that women were made to be the torment of men, and it seems to be a fate that there is no escaping. What a fool I was! I had no business to talk on the wire anyway. Served me right. I'll have a man assistant now, or I will resign."

The church clock struck 8. The sound broke in upon his meditations. He stopped and hesitated. "She will not know about those train reports, I must—yes, I must go back," he thought, and then turned his face toward the office again, hoping that she would be gone, and adding, under his breath, "Confound her!"

But the gas was still burning as he had left it, and he stopped for a moment on the threshold, with a decidedly shame-faced look. Then he drew himself up. Should he be afraid to face a woman? No! And throwing open the door he marched briskly in, with a very determined expression of countenance, that quickly changed, however, to astonishment as his eyes fell upon his assistant.

She was not laughing saucily, as he had seen her last, not even demurely at work, but with her fair head bowed upon the desk before her, and sobbing as if her heart would break. At this unexpected sight all his resentment suddenly vanished, and a feeling of surprise and pity took its place. He advanced to her side.

"Miss Walton, what has distressed you?" he asked.

With a start she raised her head and looked at him, her blue eyes swimming in tears, a hot flush on her cheeks.

"I—I—didn't think you would come back," she stammered. Then impulsively: "Oh, Mr. Clinton! forgive me; I did not think; I did not mean to be rude to you; it was only a foolish girl's joke; I was so lonesome here, with no one to speak to. Won't you forgive me?"

Harry's heart smote him. Lonesome? Why so she must have been, poor little thing. How like a brute he had behaved. As he looked down into the pretty, beseeching face he forgot all his fallacies, and was conscious only of a strong desire to take her in his arms and comfort her.

"And that was why you were crying?" he exclaimed, remorsefully. "Forgive me, Miss Walton. I have been a perfect bear. You shall not be lonely again if I can help it. Now tell me that you forgive me, and that we will be friends."

Frankly she held out her hand, which he took and held.

"I am so glad!" she said. "We will be friends now, won't we?"

* * * * *
The moon shone down upon a young man sitting in a secluded corner on the piazza of a mountain hotel—a dark, handsome young man, whose arm encircled a fair-haired girl, her blue eyes upturned lovingly to his. It was Harry Clinton and his assistant upon their wedding tour.

How the Officers Were Outwitted.

The following is an actual occurrence, and took place a few years ago in Canada. I was working at the time in a city office. The line extended a couple of hundred miles from Montreal to Caradel. About midway was a large town, Binville; the other offices were at country villages. The operator at Binville was a young man named Charlton, who had been some years in the States, and was a very expert operator and clever fellow at anything. He was not the actual agent of our company. The agent was a respectable lunatic named Chiggle, who was also postmaster. He knew little or nothing of his business, but entrusted it all to Charlton, who did pretty much as he liked. So Charlton was in effect postmaster and operator.

Perhaps you don't understand the working of the post-office. A few words will explain all that it is necessary you should know to understand my story. When they dispatch a mail from an office, they send with it a letter bill. On that bill is entered the amount of postage due on letters forwarded to the office to which the mail is sent, and the amount of postage paid in money or by stamp on letters mailed

at the dispatching office. On the right hand half of this bill are entered the numbers and addresses of all registered letters and parcels forwarded by that mail. When a letter is registered its address and number are entered in a book, and on the letter bill. The receiving postmaster enters it in his book, and initials the letter bill as an acknowledgment.

There was an agency of the Caradel Bank at Binville, and every week, sometimes twice a week, the head office remitted packages of its own notes to Binville, to be put in circulation there. These packets contained from four to six thousand dollars, and were sent by mail, registered. You will see that if, through omission of the mailing clerk, such a parcel was not entered on the letter bill, the receiving clerk could pocket the parcel, and say he never received it. There would be nothing on the bill to show that such a parcel was forwarded.

One Sunday morning in April, while Charlton was sorting the mail from Caradel by the flickering gaslight, he came across a large packet from the Caradel Bank. He threw it aside, as usual, till he had completed the task of sorting the mail. When he came to compare the registered letters with the bill he found seven letters in the parcel, only six entered. The clerk at Caradel had omitted to enter the bank parcel!

Charlton sat down and thought it over. It was a big temptation, six thousand dollars. It was Sunday, and no offices were open. Chiggle never looked at the bills, the postmaster at Caradel would never suspect anything wrong, the agency at Binville would wait till Tuesday expecting their parcel. He had two days' start. He sat down an honest man and rose up a robber. It was a terrible temptation to go through, and I think that many a stronger fellow than Charlton would have fallen. He put the parcel into his satchel, went home to breakfast, came back and attended to his office duties. At noon the office closed, and his work was over. He broke up the parcel, stowed the notes away about him, changed his dress, and hired a horse to go to a French village some dozen miles from Binville. It was a wet Sunday, the early spring roads were deep with sticky mud, the wheels sank to the axles, and slipped in the cavernous ruts. Arriving at this village, he left his horse and walked on three miles to another little hamlet, where he engaged a wrinkled old *habitant*, a furry horse, and a springless cart, on the representation that he was a telegraph repairer sent out to fix some damage done to the line. On he jolted until he reached the village of Kena, about twenty-five miles from Binville.

He left his venerable charioteer at a tavern, and walked boldly over to the telegraph office, which was in a private house. It was presided over by a fat girl in a hat and red shawl. She was about the pluggiest of pluggs that you ever heard of. Her instruments about matched her. They were shabby, old-fashioned, out of all adjustment, apparently compounded out of a thrashing mill and a wooden clock. The weather was abominable. The instruments worked accordingly, sometimes getting off a hundred fine dots utterly invisible to the naked eye, and concluding with a stubborn dash six feet long. The operator was almost crying over it, and no wonder.

But Charlton's practiced ear caught two words, "robber escaped."

His breath came quick for a minute, the room swam before him, and he almost fell. In another second his self-possession came back, and he asked the mixed operator if the line was working well now? The girl turned round and asked his name. John Bell, a repairer. He was sent down to investigate the working of the offices, and see after the line generally. The poor girl was overjoyed to see the providential Bell. The line was working wretchedly, the weather was bad, the instruments old, and she had an important message to take. It was addressed to the chief constable, and she could not make out a word. Would Mr. Bell help her?

Of course he would. So he cut off the register, and working on the feeble, rickety old relay, the following message ticked faintly off:

BINVILLE, 10th.

To Chief Constable, Kena:

The operator here, one Charlton, has stolen parcel bank notes, six thousand dollars. Robber escaped. Probably passing your way. Bills on Caradel Bank. Arrest him. Officers on his track about an hour behind him. SAMUEL CHIGGLE.

If you think, however, that Charlton copied out this message you are mistaken. He listened to it, and then, interrupting the sender, asked him to repeat it slowly, as the line worked very badly. The opera-

tor swore and recommenced. Charlton calmly wrote out this:

BINVILLE, April 10th.

To Chief Constable, Kena:

Post-office robbed of six thousand dollars. Caradel Bank bills. Robber escaped up your way. One thousand dollars reward. He will try to pass himself off as detective in pursuit of Mr. Charlton, and has forged a warrant. Seize him.

SAMUEL CHIGGLE.

This message was sent to the chief constable, a fat little Canadian, principally clad in a pair of beef-boots and a fur cap. One thousand dollars! He would be a millionaire—a thousandaire rather. Local prints would narrate his sagacity and bravery, and his grandchildren would talk of him as the man who, single handed, captured the desperate robber of Caradel Bank.

But there was no time to lose. The valiant chief constable and six myrmidons hid themselves in the adjoining room, having first *ceinturid* themselves elaborately for the fight. Charlton asked the next office when the detective had passed, and saw that he had a clear half-hour before him. He went to the tavern, ordered his patriarchal charioteer to sup and be ready to leave in an hour, ordered his own supper, left his satchel conspicuously on the table, went to the office and telegraphed that the robber was arrested, and that they need not be on the watch, and then took to the fields. He went down toward Binville, and at a turn of the road met a cart reeling and rocking furiously through the swashing mud. A stout man was lashing the horse furiously with the reins, and swearing lustily at the road-inspector. Charlton crouched under the fence till he passed, and then struck for the river. He found an old wrinkled *habitant*, who came grumbling and shivering to the door, shading his guttering candle with his dirty fingers. Charlton hired this old man and his two bead-eyed, black-haired boys to row him across the river. It was a case of life and death, he said. The river was high and the ice running. The course of the stream was choked by huge, grinding sheets of ice. Occasional crooked channels of clear water showed between these, smoking in the chill night air under the light of the moon. They pushed off in a crazy wooden canoe, and with bold hearts ventured into the floating ice. Sometimes it was fair paddling through the channels, every minute becoming narrower as the ice-fields came together. Then they had to leap out and drag the canoe over a cake of ice, straining wearily at the gunwale. Plashing into clear water, then one leg in the canoe, the other in the floating puddle impelling it onward. After four hours' hard work they reached the opposite shore, five miles down stream. Half an hour afterward Charlton was clattering and plashing over the roads in a French cart, bound for the frontier. He dodged along unfrequented roads, and at 2 o'clock on Tuesday morning was across the lines in the land of freedom—to him. He got away, and probably is a flourishing and enterprising merchant by this time.

But to go back again to our heroic detective, who was swearing along the road to Kena. He arrived there and drove direct to the office. He leaped from his seat, and dashing up the steps, panted:

"I'm a detective."

"Hurrah!" shouted the vigilant rustic chief, bursting from his ambush and, followed by his myrmidons, flinging himself upon his city confrère.

The warriors bore triumphantly down upon the officer. "Hurrah! the thousand dollars is to us—is to us!" In vain his assertions, his protestations—in vain the warrant. They were prepared for that. The unfortunate man was bound hand and foot, placed in a cart, and escorted by most of the able-bodied population of Kena, at once started for Binville. It was two o'clock in the morning when they arrived there. The news had preceded them, and the little city was all awake to see the triumphal entrance of the daring robber. On wound the mournful procession, the village chief, intoxicated with joy, dancing in front of the cart, his faithful myrmidons encircling it, like Indian bearers around a palanquin. The captive had howled and kicked himself hoarse, and was now lying exhausted in the cart, occasionally giving an apathetic wriggle or a despairing bleat. They laughingly waved back the throng, and led him to the jail. The gray-haired old jailer came wheezing forth with his keys clanking.

"Let me get at him!" howled the fiery Chiggle, bursting through the crowd; "let me strangle him!" In furtherance of this charitable intention, Mr. Chiggle seized the prisoner by the throat. Then,

with an unpronounceable shriek, a perfect hash of a word, he stove in the salutory country constable's hat.

"Great heavens!" he cried. "it is the detective!" Tableau.

North Sydney, C. B., Cable Office.

Most readers of THE OPERATOR have heard of this, the principal cable office of the W. U., and the junction of that company's wires with those of the Anglo American Cable Company. Situated at the eastern end of Cape Breton Island, North Sydney for the most part consists of one narrow, straggling street, which follows the devious course of the harbor for nearly two miles. Standing, a prominent object above the small wooden structures which as a rule line this thoroughfare, is the Western Union office, which since its removal from Port Hasting some five years ago, has been under the management of Mr. W. F. Snyder. Messrs. Earle and Upham are respectively day and night chiefs. The operating force, among which will be found several names familiar to many of our readers, consists of Thompson, Le Moine, C. J. and L. W. Hoyt, Burgess, Cleveland, Ward, Dalton, Upham Jr., Wilson, Salter, McDonald, Ormond, and McQuarrie. North Sydney harbor affords boating facilities which cannot be excelled, and the force boasts of several embryo Hanlans among its members. Good shooting and fishing can also be had in the immediate neighborhood.

J. F. Edgar, formerly of this office, and well known to maritime operators, is now agent for the Louisville Bridge and Iron Company at Pittsburg, Pa. Bliss Kay, who resigned his position here some time ago, is still sojourning at his home in Salisbury, N. B. The cable business is transacted between this office and Heart's Content, Newfoundland, which seems to deserve its name, being represented as a veritable operator's paradise. Cable operators there, who are imported from England, receive from \$100 to \$120 a month, with one month's vacation each year, and expenses paid during their absence. Married operators get their fuel, light, and house rent free, and the office boasts of an appendage probably possessed by no other office in the country, a horse and carriage for the use of operators while off duty. It is hardly necessary to state that Heart's Content is not a Western Union office, but is controlled by the Anglo American Company, which owns all the N. F. wires.

Since its lease of the Dominion Telegraph Company's lines, the American Union has not, so far as I can learn, made any changes in the personnel of the offices in the maritime provinces. It is expected that the shore end of the new French cable will be landed at St. Pierre, some eighty miles east of here, in a few days. Traveling in Cape Breton is still generally confined to the primitive stage coach, as there is not a mile of passenger railway on the Island. A few short lines connect the coal mines with the different loading wharves, but to the majority of the natives the "iron horse" is an unknown bird.

Physical Exercise.

Were we asked to give a definition of the comparative value of bodily or physical exercise and of habitual inactivity, we should declare that the former promotes life without hurrying it, and the latter hurries life without promoting it. The one economizes the expenditure of the vital force peculiar to the working organs of the body, while the other consumes it; and yet the contrary may happen from immoderate or over exertion. The body, possessing functional powers given to last a certain time, endures according to the expenditure of these powers; subject, of course, to the accidents of existence, as well as our own acts. The benefits of moderate and careful exercise are well known. Its sterling value to the human race is that, as a man cannot live by mathematical rule, he possesses it in a natural and pleasurable aid by which any excesses may be carried off and errors often redeemed. To be healthy, however, and free from the insidious chances of organic disease, he must at the same time live temperately. He must not make exercise subservient to grossness of living, for if he does he will suffer, as did the Greeks and Romans, from premature exhaustion of the various functions of the body. Exercise is, in short, the helping hand, stretched forth to assist and enliven the various daily functions of his framework, whereas the other condition is dragging it through the mire.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

W. J. JOHNSTON, Editor and Publisher.

November 1st, 1879.

Mr Julian K. Larke, author of the new book, "General Grant," is a well-known journalist of this city, being connected with the *Commercial Advertiser* newspaper.

As we stated in last issue the proper persons to apply to for positions with the American Union Company, are either D. H. Bates, President, or C. S. Shriver, Superintendent, 145 Broadway, New York.

The very interesting little love story, "His Assistant," on page 3 of this issue, was written for *THE OPERATOR* by Miss Ella Cheever Thayer, of Boston. Miss Thayer is the author of the telegraphic novel, "Wired Love," advertised in another column.

It will be seen from our Pacific Coast personals in this issue that the telegraphers of that region have organized an association whose object is to aid sick and unfortunate members. This is a move in the right direction, and we should be glad to see many more such associations in successful operation all over the country.

The Western Union has been very unfortunate in its law-suits lately. In addition to the Colgate and the telephone cases, every suit it brought against the American Union has been decided in favor of the latter company, while the only case brought by the American Union against it—a motion for an injunction in the New York Central matter—has been granted.

We are always happy to transact any business in New York for our readers, or to purchase anything that they may desire from the Metropolis. Telegraphic or electrical goods or publications, no matter where manufactured or published, can always be ordered through us at lowest prices. We charge no commission on goods purchased, and are always glad to have readers send their orders to us.

NON-SUBSCRIBERS receiving a copy of this issue will please remember that the object in sending it is, if possible, to secure their subscription to the paper, and also to invite them to become agents for our publications. See Club Rates and How to Remit, page 11, and advertisement in reference to agencies, page 14. Those who do not desire to subscribe, should preserve the paper, as there may be something in it that they will afterward wish to refer to.

We have on hand a few of Barron's Elastic Key-knobs and Covers, which we will mail to any address in the United States, postage prepaid, on receipt of 35 cents for the covers, or 50 cents for the knobs; Canadian orders 10 cents extra. The knobs and covers fit any key; are recommended by Gen. Anson Stager, A. S. Downer, Thos. Dolan, W. P. Phillips, and others, as a relief and preventive of telegraphers' paralysis, and indorsed by all the Associated Press, and by thousands of Western Union operators who have them at present in use. Order early. There are only a few left.

The Telegraphic Situation.

We are pleased to be able to state that the prospect for telegraphers has not been so promising in a long time as it is at present. For several weary years the Western Union has had the matter of compensation practically in its own hands. Notwithstanding an ever-increasing and highly remunerative business, and a net profit last year of over four and a quarter million dollars, salaries have been steadily and persistently reduced, until the remuneration of an expert operator has been almost on a par with a common laborer.

Fortunately for telegraphers, however, a competitor of the Western Union has sprung up. The new company wants a large number of good operators, and is willing to pay fair prices. Salaries being so low, through the penny-wise, pound-foolish "grading" and "sliding scale" policy of the Western Union, and operators so thoroughly disgusted with the treatment they had received from that corporation, the American Union has been able to take its choice of operators. It was not until a large number of the best telegraphers in the country had been secured by the new company that the Western Union began to appreciate the situation. Now it is beseeching operators to remain with it, and not to accept positions with the American Union until they have consulted their superior officers, and offering increases of salaries wherever there is any likelihood of any employé being approached by the American Union.

Men whose salaries were reduced at the time of the late grading, have been offered their old salaries, and in some cases even more, to remain. Situations, too, are guaranteed for five years in some instances, at the increased salary, as an extra inducement. Where a man agrees to go with the American Union he is offered the same salary that he can get from that company to remain, and if that is not accepted, an effort is made to keep him at a still higher salary. Many, however, have refused offers of five or ten dollars a month more from the Western Union, than they could get from the new company, believing that if they are worth the higher salary now, they were worth it before.

The natural effect of this competition will be to increase salaries. More telegraphers will be required to fill the places of those taken over by the American Union, and must be engaged at higher salaries. The supply of good operators is very limited, and expert telegraphers cannot be made in a day. The business is constantly increasing, too, which will give employment for more operators. So many new lines are under construction, both by the American Union and the Western Union, that all the wire manufactories in the country are running to their full capacity all day and far into the night, and still are unable to keep up with the demand for wire. Verily, old-time prosperity has returned, and both telegraphers and the telegraph business are enjoying their full share of the improvement.

Cutting Cable Rates.

When the new French cable was first proposed, the Anglo-American Company endeavored to draw the new enterprise into an amicable arrangement for harmonious working. Failing in this, it threatened a ruinous cutting of rates, by which the new company would be prevented from making any returns to its shareholders. This, however, did not deter the projectors. The main

cable is already laid, and it is expected that the shore end will be laid within a few days. The cable is to be landed at St Pierre, on the coast of Massachusetts, and the American Union Company, with whose wires the new cable is to connect, is already building a line to meet it.

The old company seems determined to keep its promise, as will be seen from the following cable dispatch, dated London, October 20th, received by President Green of the Western Union Telegraph Company, from Manager Weaver, of the Anglo-American Cable Company. "The directors of this company have resolved from the day of the opening for traffic of the new French transatlantic cable to reduce the tariff of the Anglo-American Telegraph Company by way of Valentia, or by way of Brest for messages between the United Kingdom and France and New York and Canada to 6d.—12½ cents—and 60 centimes per word respectively. In order to provide for the large increase in business, which it is anticipated will be the result of this reduction, a new cable will be laid by the company in 1880."

This rate of 12½ cents is the lowest that has yet been reached for cable telegraphing, and is done, as will be seen from the dispatch, for the sole purpose of freezing out the new company. The reduction has had the effect of depressing the stock of both the Anglo-American—which will not be likely to declare any dividends next year—and also that of the new company. Several merchants and others doing a large cable business, say that they will sustain the new company by giving it all their business, and will not send a single message by the Anglo-American after the new cable is laid and in working order.

A wonderful change has taken place in tariffs since the first Atlantic cable was laid. The cost of a message of twenty words or less was then one hundred dollars in gold.

Two More Victories for the American Union.

A decision of much importance to the American Union was rendered by Judges Harlan and Drummond, October 14th. The Western Union, with a view to delay and annoy its young competitor, had brought suit to prevent the American Union from building a line along the right of way of the Wabash Railroad. Judges Harlan and Drummond, however, decide that that portion of the contract between the two companies—the Western Union and the Wabash Railway—which provides that all competing lines of telegraphy shall be excluded from the railway company's right of way, was contrary to the laws and public policy of the United States, and therefore void. This same question has been similarly decided again and again, and the Western Union itself recently obtained against the Pensacola Telegraph Company of Florida a decision precisely the same as has now been rendered against itself.

This is the last suit brought by the Western Union against the American Union. In every instance the former company has been defeated, and it is hardly likely that it will waste any more money in these hopeless attempts to invoke the aid of the law in prolonging its monopoly of the telegraph business.

The American Union last week obtained an injunction against the Western Union. A superintendent of the New York Central Railroad—which line, as well as the Western Union, is controlled

by Mr. Vanderbilt—undertook to remove some of the poles erected by the American Union. Judge Barnard, however, has granted an injunction restraining the company from interfering with the line. These two decisions are very important victories for the new company. The troubles in New Jersey, at Philadelphia, and at other minor points have about all been settled, so that the construction of the new company's lines now progresses without interruption.

Resignation of Mr. H. W. Pope.

Mr. Henry W. Pope, General Superintendent of the Am. Dist. Telegraph Co., has resigned his position with that company, and accepted a similar one with the National Bell Telephone Company. This once more illustrates the enterprise of the Bell Telephone Company, in securing in the same individual young blood, organizing talent, telegraphic enterprise, and a representative man. Mr. Pope will, for the present, assume the position of General Superintendent of the New York Bell Telephone Company, *vice* Mr. W. C. Humstone, resigned. His resignation from the District Company, with which he has been identified almost since its organization, was a complete surprise to both officers and employes, and it may safely be asserted that it is not relished by either. Mr. Pope has, ever since his appointment as Superintendent of the American District Company, struck the happy medium of duty and extreme fidelity to his employers, and kindness and leniency to those under his control, which so few officials succeed in striking, and he leaves his charge with the hearty good wishes and kindly feelings of every one. It is understood that the candidates for the prospectively vacant position are as numerous as the starters for the O'Leary belt. Mr. W. E. Huntington has been assigned to the duty of Acting General Superintendent until a permanent appointment is made to the position. We are indebted to Mr. Huntington for an invitation to be present on the occasion of the presentation of a service of silver to Mr. Pope, at 5 East 12th street, at 8:30 p. m., November 1st; also for an invitation to a complimentary supper to Mr. Pope same evening.

A Merited Compliment.

The employes of the A. & P. office at 145 Broadway presented Mr. W. J. Dealey with a handsome silver tea service on the occasion of his leaving the A. & P. service, to accept a position as manager of the American Union Company's general office in this city. The service is a beautiful and valuable one. On the large waiter was inscribed, "Presented to W. J. Dealey, from the employes of the A. & P. Telegraph Company, 145 Broadway, New York," and on each piece is engraved the letter "D." The presentation was made very neatly. The service had been in the office most of the day, and on Mr. Dealey's stepping out for a moment, it was placed on his desk by one of the ladies (Miss Hitchcock). Mr. Dealey, on his return, was very naturally taken by surprise, but recovered himself, and appropriately expressed his thanks, afterward writing a feeling letter of farewell to his former subordinates. Mr. Dealey is opposed on principle to presentations of this character, and the boys had to proceed with great caution, knowing that Mr. Dealey would have stopped it if he had been made aware that anything of the kind was intended.

The Western Union in Contempt.

Judge Blatchford, on Monday, granted the writ of attachment against the Western Union and Gold and Stock Telegraph companies asked for by Mr. Clinton G. Colgate two weeks ago, as already reported in THE OPERATOR.

In January last, it will be remembered, a decision was rendered enjoining the defendants and their officers from infringing the plaintiff's patent for a gutta-percha insulator for telegraph cables and wires, or from transferring or disposing of cables so insulated to other parties. When the motion was made, evidence was given that the defendants in both cases had violated the injunction, and it was petitioned that attachments issue against them for contempt of court. The decision of Judge Blatchford grants the motion, and an attachment is ordered against Norvin Green as President of the Western Union Telegraph Company, and against the company; also, against George B. Prescott, Vice President of the Gold and Stock Telegraph Company, and against that company also.

AFTER much litigation, and considerable negotiation, the rival telephone companies have at last amicably arranged their little difficulty. The agreement drawn up is very voluminous, covering over fifty pages of legal cap, and containing many specifications. As it had not been signed at the time of this writing, the contents could not be ascertained. Rumor has it, however, that the Bell Company is to have the manufacturing and leasing of all telephones, paying the American Speaking Telephone Company one dollar a year royalty on each instrument, and that the arrangement is to take effect November 1st. This consolidation was a very wise step on the part of both companies. As matters stood before there was very little actual profit for anybody concerned, except the lawyers, who made a nice little harvest out of the quarrel. It is probable, now that the other matter has been settled, that the Bell Company will proceed against all persons using telephones not leased in the ordinary way.

In answer to numerous requests on the subject, we shall publish, before or about the first of December, a New Year's Address, for presentation by messengers to patrons of the telegraph. The poem, written especially for the purpose, will be original and appropriate, as well as handsomely printed on heavy tinted paper and possibly illustrated. It will be very neat and attractive, and printing so many, will, of course, be sold at a price much lower than messengers could get it printed for in their own towns. Price and further particulars will be found in THE OPERATOR of December 1st, or will be furnished on application as soon as it is ready. Readers will confer a favor by drawing the attention of messengers to this item.

We have on hand a few copies of "Lightning Flashes" the covers of which have been soiled by handling. Otherwise they are as good as ever. They will be mailed on receipt of half price—seventy-five cents. There are only a very few of them.

SUBSCRIBERS receiving more than one copy of this issue will please use the surplus to best advantage in getting up a club. Specimen copies of this issue, however, are mailed direct to every office in the Western Union tariff book.

Edison's loud-speaking telephone, illustrated in THE OPERATOR of October 1st, is giving great satisfaction in France, where it has been tried at the central telegraph office and on several railway lines.

Themes for the Thoughtful.

Economy is of itself a great revenue.

The first step toward virtue is to abstain from vice.

Men may be ungrateful, but the human race is not so.

It is more profitable to look up our defects than to boast of our attainments.

We can hardly learn humility and tenderness enough except by suffering.

Animals are agreeable friends—they ask no questions, they pass no criticisms.

Worry wears more than work. The horse that frets is the horse that sweats.

If mortals could discover the science of conquering themselves, we should have perfection.

We all have our secret sins, and if we knew ourselves, we should not judge each other harshly.

We take greater pains to persuade others that we are happy than in endeavoring to think so ourselves.

It is an ill thing to be ashamed of our poverty, but much worse not to make use of lawful endeavors to avoid it.

All men look to happiness in the future. To every eye Heaven and earth seem to embrace in the distance.

Man wastes his mornings in anticipating his afternoons, and wastes his afternoons in regretting his mornings.

* No man is rich whose expenditures exceed his means; and no one is poor whose incomings exceed his outgoings.

The strongest heart will faint sometimes under the feeling that enemies are bitter and that friends only know half the sorrow.

Any coward can fight a battle when he is sure of winning; but it's the brave man who has pluck to fight when he is sure of losing.

Thorough education is quite as necessary for giving humility as for creating assurance; for ballast as much as for gas, sails and feathers.

It is very often more necessary to conceal contempt than resentment, the former being never forgiven, but the latter sometimes forgot.

It is not always raining, and life is not always a storm. The whole of famine, pestilence, and war taken into account, the result is a tendency to happiness.

As waste and worthless lands can be made to yield abundantly by proper care and cultivation, so can arid and barren hearts be reclaimed by kind and sympathetic endeavors.

If there is an angel who records the sorrows of men as well as their sins, he knows how many and deep are the sorrows that spring from false ideas for which no man is culpable.

If we are ever caught in a shower of prosperity, remember we can find shelter with some poor neighbor, on whose threshold we might allow some of the superfluous drops to fall.

Every good word and act and gentle touch has its fruit, and serves our kind; every smile that we shed upon a child is an act of devotion to our human providence and a deed of charity.

If you would add lustre to your accomplishments, study a modest behavior. To excel in anything valuable is great, but to be above conceit on account of one's accomplishments is greater.

We have never seen a man bewailing his ill-fortune without something of contempt for his weakness. No individual or nation ever rose to eminence in any department which gave itself up to childish complaints.

Let our first efforts be, not for wealth, but for independence. Whatever be your talents and prospects, never be tempted to speculate away, on the chance of a palace, that which you need as a provision against the work-house.

As the rose-tree is composed of the sweetest flowers, and the sharpest thorns; as the heavens are sometimes fair and sometimes overcast, alternately tempestuous and serene; so is the life of man intermingled with hopes and fears, with joys and sorrows, with pleasures and with pains.

General Grant.

Mr. W. J. Johnston, in publishing at this time the biography of General U. S. Grant, has exhibited a keen professional instinct for divining just what the people want, and the precise time to give it to them: and he does this, to judge from the handsome appearance of the book, regardless of cost.

Biographies are always the most profitable reading, since they not only yield us the pleasure experienced in perusing a good novel, but also teach us practical lessons in life, and inspire in us the commendable spirit of emulation. A great many men fritter away their lives in a manner useless to themselves and to the community, simply because they have neglected the stimulating influence of the example of successful men who have gone before them. It has been a favorite theory with me for many years that when a young man makes up his mind to try to be successful in the world, he should fix upon some great historical character, make him his patron saint, and ever strive to imitate him in all that is good. All through the long range of biographical literature are found great characters which have struggled up from the carpenter's bench, the weaver's loom, and even from the laborer's hod, until "the fierce light" illumines their wonderful characters to posterity. Young Bob Clive, afterward Lord Clive, the famous General, was a scribbling clerk in a warehouse when the war broke out which made his name immortal; Cloudesley Shovell, afterward Sir Cloudesley Shovell, the great Admiral who swept the seas, was once a hostler; Arthur Wellesley took off the soldier's shako to replace it only with the strawberry leaves of a coronet as Duke of Wellington; and the histories of Daniel Webster, Abraham Lincoln, Andrew Johnson, Henry Wilson, and other self-made men of our own country, are too familiar to need recounting. It should not be enough for us to know that such and such a person lived and died and did thus and so once upon a time; but we should read of the attendant circumstances, and compare, reflect upon and analyze the controlling elements in his character. It is not sufficient that we should gaze admiringly on the young lieutenant, Bonaparte, soaring upward by sheer will-power until he proudly wears "the crown the Bourbons lost;" but the lesson, to be effective, must be pursued further, until we witness mad ambition o'erleaping itself and the bold man wrapped in a seedy martial cloak, crownless and sceptreless once more, fretting away his declining days in enforced exile on that dismal ocean rock.

We, as a people, are rapidly building up for ourself a national pantheon of heroes and martyrs, and our young nation points with pride to such historical characters as Stephen A. Douglass, Thos. Hart Benton, Charles Sumner and the "lion-hearted Tennessean"—Andrew Jackson. These, we must all feel proud to boast, were the product of our Greater Britain—the men of whom it can well be said "the very sound of their names is like the roll of a drum," and their lofty deeds give notice to the world that the boasted blood "fetched from fathers of warproof" still courses hotly in our veins. Every action, every saying, every recorded thought of theirs is a patriotic inspiration to our young men, and the great lesson must always be kept before them by means of good biographical works.

Mr. Johnston, in bringing before us in such an attractive manner the life of General Grant—a soldier who has, so to say, bivouacked permanently in the national heart—has shown a keen appreciation of our necessities; and the author has missed no incident in the eventful life of that hero from which a profitable lesson could be drawn. The book is written by J. K. Larke, and is called "General U. S. Grant: His Early Life and Military Career, with a Brief Account of His Presidential Administration, and Tour of the World." It is splendidly bound, as are all of Mr. Johnston's publications, and contains 512 closely-printed pages. It certainly makes an elegant and most entertaining and instructive work, and, as the price has been put

so low as a dollar a copy, is assured in advance of an immense sale.

Mr. Larke has done his work in a thoroughly business-like manner, taking us, in regular order, from the birthplace of the great Captain to his debarkation at San Francisco on the 20th of last September. He leads us in the most entertaining manner through the great surging current of a human life—the life of Grant—sweeping on from comparative poverty to fame and fortune, the stream swelling with mighty deeds as it flows resistlessly onward—on through every one of the fifty-seven years which weigh so lightly on the General now. We are with him in the humble home of his childhood—the fair-haired boy, unknown and unnoticed—and again we see him, after the lapse of a few years, standing on the shell-ploughed field, the Chieftain-in-chief of a triumphant and overwhelming host, a million strong. We see him in civil life toiling at his daily labor for a struggling family, and again we hear the clanking of sabres trailing from the sides of strong men, proud in their might, surrounded by flaunting flags, and charmed by martial music, and here, again, we find him the noblest and grandest of them all. We accompany him on his triumphant, circum-mundane tour, and hear the tanner's boy imparting sound advice on matters of state to Tycoon and Wong-hi, with Sultans, Grand Lamas, Kings and Emperors hanging upon his words—a living monument and certificate to the world of the freedom of America, which sets no limits to the poor man's aspirations.

In many cases the work bears a thrilling interest—especially in depicting war scenes—but the talented author has drawn his picture so faithfully that we have before us always only the same Grant—the self-same, 'silent, smoking, unobtrusive man. Like an atmosphere the same persevering "I-propose-to-move-upon-your-works-at-once" air hovers ever over the character, yet we find him, then as now, always so generous, so unselfish, so uncomplaining, and so chivalrous.

These are the studies which Providence sets before an admiring world from time to time, and the best among us will be better still by learning the everlasting lesson. These are the secrets for us to learn. The keen perception and unerring judgment of this strangely quiet and humble man, the charming dignity and self-respect without, the unruffled serenity of his mind amid the seeming wreck of a mighty nation, and the steel-like placidity of that steady blue eye which no passion ever melted, have been the attributes of his splendid success.

More conflicts have yet to be fought—more victories to be gained; new generations have yet to make their mark, and to this end we leave them the history of our heroes, as beacons to "lure them on to those inspiring deeds by which Man conquers men."

WERNER.

Stratford, Ont.

If the spirit of the immortal Shakespeare should ever revisit this terrestrial orb—which, by the way, I consider highly improbable—his mission would never be properly fulfilled until he has visited the Canadian town of Stratford. Named after the birthplace of the illustrious poet, it is also situated on the river Avon, which, for the honor of Old England, I sincerely trust bears no resemblance to its celebrated prototype. The wards of Stratford are designated by such familiar names as Romeo, Juliet, Falstaff, and Hamlet, and even its streets perpetuate the name of Shakespeare.

I might here remark, however, that when the average pedestrian attempts to cross one of these streets his mind is not usually engaged in a reminiscence of Shakespeare's days, as might naturally be supposed, considering his surroundings, but is more practically engrossed in the momentous question of how he is going to safely transport himself across the sea of mud which yawns between him and the opposite side. If it should happen, however, as it possibly might in extreme cases, that his mind is ruminating on Shakspearean themes when he attempts this gigantic engineering feat, he experiences some difficulty in resuming his meditations when he arrives on the other side with one boot swinging gracefully from his toe, and the other rapidly disappearing from sight in the middle of the road.

Stratford is one of the principal railway and telegraph centers of Western Ontario, and a large number of operators find employment in its different offices. The main office of the Montreal Telegraph Company is under the able management of Mr. W. N. Warburton, assisted by the irrepressible Billy McNaughton, as operator, by whom the heavy and increasing business of the office is handled in a highly artistic manner. The Dominion Telegraph office, a few doors further up the street, is under the management of Mr. Jackson, with John E. Sayers as operator. "X" is young in years, but can attach a velocity to his Morse which causes the temperature in the immediate vicinity of the receiver to rise with some thirty, some sixty, and some a hundred degrees; and the man who undertakes to rush him finally becomes a hopeless bankrupt before he finishes his contract.

The Grand Trunk Railway dispatching offices for the Western and Buffalo Divisions are at Stratford station, also a repeating office, which is rendered famous by being once worked by the world renowned Edison. It was here that he used his first electrical invention, an instrument which formed the figure 6 on the line every half hour, a duty required from night operators to show that they were awake. The G. T. R. also has an office in their Eastern yard, under the management of Messrs. Ryan and Mahoney. The Port Dover and Lake Huron Railway office, under the management of Mr. Henry Morrow, and branch offices of the M. T. Co. in the Albion Hotel and the Thomson & Williams Agricultural Works, complete the number. Stratford has given the telegraphic constellation some of its most brilliant lights, among whom may be mentioned D. Lockhart, M. T. Co., Buffalo; M. Duperow, M. T. Co., Toronto; George Warille, M. T. Co., London; and Dave Forbes, G. E. & Int. Railway, Overton, Texas.

Q. CUMBERS.

Assurance and Delay.

One by one the obstacles placed in the way of competition by the Western Union Telegraph Company are being knocked away. Judges Harlan and Drummond at Toledo on Tuesday rendered a decision in the case of the Western Union Company against the Wabash Railway Company, which holds that any stipulation in a contract excluding competing lines of telegraph companies from the railway company's right of way, is contrary to public policy, and therefore void. This principle of law has already been established by decision of the courts, and that the Western Union Company has put itself in opposition to it is only another evidence of the pertinacity and assurance it displays in fighting competition and maintaining its monopoly. It is safe to say that only a corporation backed up by the immense resources possessed by the Western Union Company would dare to brave public opinion, and resist lawful authority in the manner in which it has done since a formidable rival first made its appearance in the field.

The assurance of that company in appearing in the courts with the claims which it presented in the Wabash suit is doubly plain when it is remembered that claims exactly similar have already been resisted by it in the courts of Florida, and a decision similar to that rendered by Justices Harlan and Drummond, though then in favor of the Western Union, was obtained by it in the Supreme Court of the United States. We then have the charming consistency of that corporation fully shown in having at one time a contract set aside which prevented it from becoming a competitor of previously established companies, and now asking that such a contract should be enforced for the purpose of preventing competition against itself. Were it not for the many overt acts that the Western Union Company has already committed against law and good order, it would be difficult to understand how it could have the brazen effrontery to impose its fictitious claims upon the time and patience of the courts.

It is, of course, an acknowledged fact that the purpose of the Western Union is to delay the establishment of a competition which it fears, and which it knows will ruthlessly deplete its revenue, and diminish the amount of its stock dividends. That such competition can only be delayed and not prevented, none know better than the officers of the Western Union Company. The fiat has gone forth that one more monopoly shall be overcome, and, like the condemned criminal, the Western Union is simply fighting for a respite. When the competition is established, the Western Union can expect little favor from the community and the

country which it has selfishly made the means of its aggrandizement. While the delay continues, however, the stock of the company can be made to furnish a scheme for speculation, and rumors, such as floated about on the street yesterday and the day before, can be put forth to further such a scheme.—*N. Y. American Exchange.*

The American Union in Philadelphia.

President Bates, of the American Union Telegraph Company, never showed his wonderful powers as an organizer, a spirited strategist and a faithful disciplinarian to better advantage than when, with the efficient aid of manager John E. Zeublin, he swept away the innumerable obstacles placed in his path in the city of Philadelphia through Western Union influences. Work upon the lines of his company was stopped by the police six weeks ago, and for a time the prospect for them was exceedingly gloomy, but the new company at once attracted and received the unanimous support of the press of Philadelphia; was complimented by the Commercial exchange in a series of resolutions requesting the mayor and city councils to permit its work to be completed, and, in fact, was upheld generally in such a vigorous manner that when the ordinance permitting its lines to pass through the city came before councils, it was passed with but one dissenting vote.

The American Union has now leased a portion of the Record building at the southwest corner of Third and Chestnut Streets, where its headquarters will be located. Branch offices will also be established in various parts of the business portion of the city, and already a very handsome one on the floor of the Chamber of Commerce gives the Western Union office in the same room a very dingy appearance. Although the new company has not yet opened for general business, it is already working to Baltimore and Washington for Government business originating at the League Island Navy Yard. Mr. A. S. Nance presides in Philadelphia over this circuit. The D'Infeville duplex is also to be put in operation on its lines at once.

No one expects that this opposition is going to hurt the Western Union company much, since every one knows that there is work and room enough for all. On the contrary, the operators and the public would be as sorry to see the American Union drive the Western Union from the field as they were to see the Western Union annihilating its previous competitors. But we do look for some wholesome lessons in the lost art of telegraphic management, and many of these lessons have already been placed before the Western Union, with the implied compliments of Mr. Bates. The American Union, in paying these little courtesies to its big rival, has evidently thought that the attentions were too weak for the occasion, for we now find it again stroking the Western Union fur in the wrong direction by taking away its best men. The acquisition of Mr. John E. Zeublin, with his twenty years' experience in the most responsible positions, who is now the local manager of the new concern, was a masterstroke, for there is no abler electrician, and no more thorough and conscientious executive officer in the country. Mr. William G. Jones, with a similar experience and character, has also been taken from the Western Union service and installed as chief operator of the American Union, and assistant to Mr. Zeublin at Philadelphia. Mr. Ben. Lloyd, of the Western Union Pittsburg office, has been selected for cashier of the American Union here, while Mr. W. J. McElroy, at present night manager of the Pittsburg Western Union office, is to be their chief operator at New York. Although it evidently affords the American Union much satisfaction to take away its rival's best men, I believe it is not their intention to "clean out" any particular office, but to take merely the very best, to pay them proper salaries, and to make their selections from end to end of America.

If this should continue there must soon be a rise in all operators' prospects. Indeed, to the great body of weary operators, the American Union seems like a bright, glorious, new moon emerging from behind a frowning cloud. Its business-like methods, its stability, its willingness to pay a good price for that which is good, and its grim determination to have nothing but what is good, carry our recollections back to the good old-time days of O. H. Palmer, David Brooks, and the Chevalier James D. Reid—men whose names need no tinsel gilding—and we reasonably look now for a return of those times when officials observed toward their subordinates the courtesies customary with gentlemen.

It is a melancholy fact that of late years no tele-

graphers have been hired but cheap ones—that is to say, low priced ones; every other consideration being subordinated to this one. So long as he was a "cheap" man, and thus enabled a fawning local manager to exhibit a "reduction" in expenses, it did not matter even if he worked a wire on the same principle as the unmusical Irishman played the fiddle, neither by sight nor sound, but by main strength. Many a circuit is to-day worked by "main strength" alone, for forty dollars a month; and, although there is very little telegraphing done on those lines, the company gets, considering the price paid, a fair exhibition of muscular ability. By this means many of our best men have been driven from the service altogether, and the "compensation" to those subsequently joining has been reduced to such a figure that the American Union now finds no difficulty in adding the dollars by decades; and it is an open secret that the latter company can to-day enter any of the Western Union offices and literally beckon out the men it needs. But, since this fact has become apparent, it is noteworthy that the older concern has evinced a tardy desire to increase the salaries of its men. Thus, recently, in Philadelphia, when the American Union magnetized the Western Union blue-ribbon linemen with a ten-dollar raise, and carried him off in triumph, its rival promptly increased the salaries of all their other linemen five dollars each per month. Similar cases are occurring, I am told, in other cities; but the haggard faces, the thrills and chills of horror and the metaphorical crape on the official hat attest the mourning which such "extravagance" creates, and show the somewhat jubilant operator that, although the salary-grab is at present lost to sight, it is still, with them, to memory dear.

PHILADELPHIA, October 25th, 1879.

WERNER.

Monopoly's Last Blow.

The decision rendered by Judge Barnard at Poughkeepsie on Saturday in the case of the American Union Telegraph Company against the New York Central and Hudson River Railroad Company, is another blow against monopoly. The American Union Company commenced the construction of its telegraph line along the Mohawk Turnpike between Herkimer and Little Falls, but the New York Central Railroad Company immediately had the poles erected by the American Union pulled up. A temporary injunction was obtained by the telegraph company restraining the railroad company from interfering with the construction of its line. On Saturday Judge Barnard made the injunction permanent which enables the American Union to proceed with the work. The appearance of the New York Central in the fight against the new telegraph company of course is only as the agent of the Western Union. In New Jersey the dirty work of that company was performed by officials of the Continental Telegraph Co. Wherever it is possible, the Western Union prefers to employ agents to resist lawful authority and override the rights of the people. Failing in that, however, it is not backward in showing its own hand and personally put itself in the breach threatened by competition.

The continued defeats which the Western Union Company is meeting in the courts throughout the country indicate the approaching end of a monopoly that has too long been permitted to exist. The position which that company has occupied ever since its soon to be formidable competitor first began operations, is a practical illustration of the methods which that company has long employed to baffle competition and defeat the public demand for justice at its hands. The fact that the Western Union continues to spend from its treasury large sums of money for purposes of litigation, with the sole object of delaying competition for a few months, indicates not only the great profits that it is reaping from the business which it controls, but also how bitterly it fights against all competition.

When it is remembered that the people have been taxed by this wealthy monopolist for the purpose of employing lawyers to fight spurious claims in courts, and to employ emissaries to cut down the poles of rival lines and commit other indictable offenses, it is not difficult to foretell the result when a competitor enters the field. That the Western Union will lose a large portion of its business when the public is offered the opportunity of choosing its servant, evidently even its managers do not doubt. That there will be a large reduction in its revenue from this cause, and also by a reduction of rates which will inevitably follow competition, is also an incontestable fact. Present indications point to an early consummation of these changes.—*N. Y. American Exchange.*

Pacific Coast Personals.

Several changes have recently taken place in the "personnel" of the San Francisco office. Jno. Donnelly, big, whole souled "Don," has left the biz, and in company with M. C. Murtlagh, another old timer, has started for Washington Territory, to take up land and become "jolly farmers." Both have the best wishes of all their old friends. C. H. Boynton, who for some time has been doing odd jobs subbing in both the W. U. and R. R. offices, has got a permanent "sit" with the Central Pacific, at Reno, Nev., working nights. O'Reilly, the great original O. R., left us a week ago. He returns to New York a sadder and a wiser man, (little poorer, too.) Frank Medina has resigned, and accepted a situation as operator at the Sutro Tunnel, near Virginia City, Nevada. E. H. Sherwood, from Virginia, Captain J. R. Dennis, lately of New York, and Walton Huey, recently from Salt Lake, fill the vacancies. Jack Powers has gone to Paso Robles Hot Springs, relieving John McLean there for a few weeks, and Charley Bloomfield is temporarily filling his place. Rod Tyler is working extra again, and J. H. McGuire is once more on the list for a vacancy. Charley Hoag, who, eight years ago, resigned the position of chief operator of S. F. office to engage in the windmill business, has concluded that there is nothing in it, and is again a candidate for telegraphic employment. A. W. Todd, after various ups and downs, is now working at Ogden.

Several months ago, "The Pacific Coast Telegraphers' Mutual Benefit Association," was organized for the purely beneficent and charitable object of aiding the sick and unfortunate. Already quite a little fund has accumulated. Up to the present time it has been entirely local in its action, but it is now in contemplation to revise the constitution and extend the organization throughout the whole Pacific division. Our general superintendent, Mr. Gamble, heartily indorses it, and promises his aid and influence in extending its operations. We hope soon to see this worthy institution in a flourishing condition. SPRING.

The Quiet Way the Best.

The best administrative officers are those who make their authority felt with as few words as possible, and never display it unnecessarily. Men who are competent to command—"born leaders" as they are called—have no occasion to exact obedience from subordinates, for no one ever thinks of disobeying them; while those who do not possess the faculty only display the weakness in their efforts to appear important and impressive. The story is told of a man who had a large number of pigs in a pen near his house, and made it his practice to go out every evening and "stir them up" with a club, to the great annoyance of the pigs and the disturbance of the neighbors. One of these remonstrated with him one morning, asking why he treated his pigs in such a cruel manner. "Because," he answered, "I want them to know that I'm boss." There are too many men in authority in the telegraph service whose idea of executive ability is exactly on a par with this. They bluster and splurge and "stir things up" generally, convinced that such foolish parade of authority will convince those unfortunate enough to be under them that they are "boss," whereas, the fact is that it serves to convince all concerned that they are fools. And the time comes at length when those who are over them find it out, and they are dropped. The quiet way is the best, after all.

"Christmas Evergreens" is a prettily bound, handsomely printed and illustrated holiday book, compiled and published by W. J. Johnston. The book consists partly of original and partly of well-known standard poems, and the engravings are by noted artists. It contains "Paul Revere's Ride," by Longfellow, with six illustrations; "The Telegraph Wires," by George T. Langan, with eleven illustrations; "The Deserted Village," by Oliver Goldsmith, with eight illustrations; "Oh, Why Should the Spirit of Mortal be Proud?" (Mr. Lincoln's favorite poem), by William Knox; "The Telephone," by B. F. Taylor, with three illustrations; "The Snow Shower," by William Cullen Bryant; "The Christmas Tree," by J. C. Sherer; "Notes of the Birds," by J. McLellan, Jr.; "The Lullaby," by Alfred Tennyson; "To a Butterfly," by William Wordsworth; "In Praise of Angling," by Sir Henry Wotton; "Christmas Tide," and "The Horse," by Eliza Cook; "Home," by James Montgomery; "Spring," by Thomas Gray. And the collection is an acceptable Christmas offering.—*N. Y. Express.*

"Esq."

A young man whose money didn't hold out as long as the State Fair, dropped into the telegraph office yesterday and sent a dispatch to his father in an interior town to forward him cash to reach home with. When the receiving clerk saw that the dispatch read, "To John Blank, Esq.," he suggested that a saving could be made by erasing the "Esq."

"Well, maybe you think so, but I don't," replied the sender. "When I am home I can call him 'dad' all day long, but when it comes down to black and white you've got to 'Esquire' him right up to the nines, or walk home by the dirt road. Don't you dare leave that off—not with the roads as muddy as they are now!"

In about an hour the following answer was received:

To —
John Blank, Esq., forwards you \$10, and you can have more if you want it. JOHN BLANK Esq.

"Didn't I tell ye," chuckled the young man as he read it. "Dad's common enough when we're all home and rushed to get fall wheat in, but the minute his back gets rested, and a stranger comes along, he weighs more to the ton than any 'Esq.' on legs. I tell ye, you don't know a man till ye've hoed corn with him!"—*Detroit Free Press.*

Inherited Memory in Birds.

About twelve years ago I was residing on the coast of County Antrim, at the time the telegraph wires were set up along that charming road, which skirts the sea for twenty-five miles, between Larne and Cushendall. During the winter months large flocks of starlings always migrated over from Scotland, arriving in the early morning. The first winter after the wires were stretched along the coast, I frequently found numbers of starlings lying dead or wounded on the roadside, they having evidently in their flight in the dusky morn struck against them, as these accidents often occurred when there was but little wind. I found that the peasantry had come to the conclusion that these unusual deaths were due to the flash of the telegraph messages killing any starlings that happened to be perched on the wires when working. Strange to say that throughout the following and succeeding winters hardly a death occurred among the starlings on their arrival. It would thus appear that the birds were deeply impressed and understood the cause of the fatal accidents among their fellow-travelers the previous year, and hence carefully avoided the telegraph wires; not only so, but the young birds must also have acquired this knowledge and perpetuated it, a knowledge which they could not have acquired by experience or even instinct, unless the instinct was really inherited memory derived from the parents whose brains were first impressed by it.—*Nature.*

PERSONALS.

Jas. F. Watkins, of Clinton, Iowa, is now night manager at Crystal Lake, Ills.

Mr. Segelkin is agent and operator at Dover Plains, N. Y., assisted by G. Van Tassel.

Charlie Johnson, formerly of Chicago W. U. main office, is now regular report man at Dubuque, Iowa.

Mr. H. Van Hovenbergh has been appointed electrician of the American Union Telegraph Company.

Miss Emogene D. Marsh has accepted a position as assistant operator in the W. U. Telegraph office, at Fairbury, Nebraska.

Resignations of first class operators are becoming numerous on the Penna. Road, owing to low salaries and excessive work.

Gib. Merrill, late of the W. U. staff, New York city, is at present employed in train master's office, O. and N. W. R. R. at Boone, Iowa.

Mr. C. N. Wells, formerly agent and operator at Harrisburg, Va., is now general baggage agent of the South Carolina Railway.

Mr. George H. Bancroft, for the past eight years manager of the Western Union office at Warren, Mass., has accepted a position as operator in the freight office of the Boston and Albany Railroad, at Springfield, Mass.

W. J. Meeks, Low Moor, J. C. Hamilton, Lisbon, and Frank Beane, Maple River Junction, are late additions to the C. and N. W. force in Iowa.

Any one knowing the present location of J. H. F. Scholl, telegrapher, last heard from at San Bernardino, Cal., would confer a great favor by addressing Harry Algert, Allentown, Pa.

There are fewer students on the Pittsburg Division of the Penna. Railroad than there has been for several years past. Operators are beginning to realize the effects of not taking students.

F. E. Merrill, late train master on the Central R. R. of Iowa, and an old time W. U. operator, is the latest addition to the dispatchers' force at Clinton, Iowa, on the C. & N. W. railway.

Otto Miller, for many years assistant dispatcher, Galena Division of the old reliable North Western, has lately been promoted to regular night dispatcher, *vice* Jas. B. Fraley resigned; the veteran "Tom," W. Fish continuing as chief dispatcher and division operator.

P. T. Cornell, formerly operator at Golden's Bridge, N. Y., has been appointed agent and operator at Patterson, N. Y. M. T. Whalen, late of Chatham Four Corners, has been transferred to Golden's Bridge as agent and operator, and E. D. Root, of Old Chatham, takes Mr. Whalen's place at Chatham Four Corners.

The handsome W. U. office at Woonsocket, R. I., is under the management of Miss Helen M. Staudley, assisted by Master Stevie Scandlon, press operator, who deserves great credit for his neat copies. It is only a little over a year since he entered the profession. The neatness and management of this little office reflects credit upon the manager.

It is said that the distinguished French experimenter, M. P. Bert, has constructed a modification of the microphone which permits a deaf person to hear a speaker at any distance, the apparatus being placed about a yard and a half from the speaker. Among other improvements, it can reproduce sounds with an amplitude proportional to that of the emission, and with their proper timbre.

There are some men who are capital managers of details. If an ink bottle isn't carefully filled and cleaned, or a speck of ink happens to make its appearance on the desk, they are fully equal to the occasion, and that is about all they are equal to. Yet, according to the excellent system of rewards and favors, these are the kind of men who are most frequently found in the more prominent positions in the service.

The jurisdiction of J. J. Dickey, superintendent of telegraph of the Union Pacific railroad has been extended to all the roads and branches operated by that company, including the Utah and Northern, Colorado Central, St. Joseph and Western, and Omaha and Republican Valley railroads. Mr. Dickey has also been appointed superintendent of telegraph of the Kansas Pacific Railway and branches, with headquarters at Omaha, Neb.

J. M. Prendergast has been added to the force of train dispatchers, Va. Mid. R. R. Co., Alexandria Va., and the eight hour system inaugurated in that office. Messrs. Duke and Dinwiddie deserve this assistance and reduction of hours. J. W. Savage, of Wilmington, N. C., has been appointed operator, W. & O. R. R. Co., Alexandria, Va., *vice* Mr. Prendergast, resigned. W. P. Buckley has been appointed night operator, Va. M. R. R. Co., Lynchburg, Va.

INTERCOLONIAL R. R.—The whole Northern Division is now managed by Mr. A. S. Busby, who is well liked by those under him. The dispatching office at River du Loup is managed by dispatchers McCarthy (in charge), T. Crockett, C. Bell, and Mr. Patten, all of whom are good operators. Among the best operators on the road may be mentioned J. L. Herrett, at Metapedia; J. Belanger, St. Flavie; M. Pelletier, St. Fabien, and J. Malcolm, at present engaged as relief agent.

Among the telegraphers in the city to-day in attendance on the fair were the following: C. A. English, Leesburg, Va.; W. A. Garner, Warrenton, Va.; E. Bear, Jr., Orange, O. H., Va.; James Breen, Lynchburg Junction, Va.; Mr. McCarty, Washington, D. C.; C. R. Bitzer, Purcellville, Va.; H. W. Williams, Vienna, Va.; J. B. Pugh, Hamilton, Va.; Jimmie Duke, Charlottesville, Va.; M. Keegan, ex-operator, Gordonsville, Va.; J. C. Gentry, ex-operator, now attorney-at-law, Gordonsville, Va.—*Alexandria (Va.) Gazette.*

Mr. Lothrop, County Recorder of Lyon County, has in his office at Dayton a wren's nest, containing two eggs so charged with electricity that they act precisely as a magnet. If the open blade of a knife be placed within half an inch of them, says the Lyon County Times, they will be attracted at once, and will adhere to the blade until removed. The eggs were charged with electricity by a telegraph wire passing through the tree which sheltered the nest. They have been in the cabinet about two months, and are just as magnetic now as when he first got them. An offer of \$50 has been refused for them.—*Virginia City (Nev.) Chronicle.*

Many friends of Paul Bossart will be pleased to hear that he is prospering in the West. He is now located at St. Joseph, Mo., where he is Superintendent of the Bell Telephone Exchange, and agent for all private lines in that section for the Bell Company. Paul is an old timer in New York and Baltimore, and saw his palmist days as an operator at the time when Jesse Bunnell, Billy Sawyer, M. H. Redding, Oscar Willis, and the balance of that school were the experts of the country, and ten years ago was considered one of the finest operators in 145. He has been identified with the telephone business for more than a year, during which time he has established Exchanges and superintended the construction of all the lines for the Bell Company in Kansas City and St. Joseph, Mo.

DUXBURY, MASS.—Cable Staff, Anglo-American Side: M. J. Gaines, Supt.; James A. Needham, Manager; operators, Geo. A. Green, Alfred E. Green, A. G. Collicott, R. G. Sanderson, J. D. Gaines, Arthur Graves; electrician, Chas. Cuttriss; batteryman, Charley Hodgson. Western Union Side: Jas. C. Robinson, manager; operators, Chas. H. Thomas, William W. Wood, Geo. B. Penneck, James Crawford; clerks, Sanford Winsor, Fred Sampson; batteryman, John H. Alden. Business at this office is very heavy; constant rush the day long. The Cable Co. is putting in a set of Stearn's duplex to meet this increased business. Supt. M. J. Gaines is taking a two months' trip through the South. Mr. James Needham is acting superintendent during his absence. The syphon recorder will be stored in the garret soon, to make way for the Morse register. Dick Gaines sent 63 messages in one hour the other day—good time for the cable. Manager Robinson is very popular with the boys.

NEW YORK AND HARLEM R. R.—At General Superintendent's office are to be found the two genial operators C. V. Parker and E. G. De Lanoy. J. H. Eysenberg is owl operator same office. At Morrisania we find the gentlemanly agent and operator J. T. Lee. At White Plains P. K. Foster is stationed as ticket agent and operator. E. T. Bailey is agent and operator at Mount Kisco. C. Koerber is operator at Katonah. M. T. Whalen, formerly of Chatham Village R. R. office, is ticket agent and operator at Golden's Bridge. L. Smith is agent and operator at Croton Falls, ably assisted by his brother. W. Barrett is ticket agent and operator at Brewsters. At Pawling P. Kilmer is operator. P. T. Cornell received the appointment as agent and operator at Patterson, October 1st. W. J. Turner is operator at Amenia. At Wassaic W. Brant is agent and operator. W. Deacon is ticket agent and operator at Millerton. At Boston Corners we find J. Hunt. T. P. Melins is operator at Copake, and R. L. Cannon at Hillsdale. At Philmont H. J. Kroosz is located. E. A. Beckwith is manager of Chatham Village office. Eddy Cady is owl operator at Boston and Albany R. R. office. E. D. Root is at the Harlem R. R. office as ticket agent and operator.

KANSAS CITY DIVISION, A. T. AND SANTA FE R. R.—At Union Depot, Kansas City, Mr. Sam Bigger gracefully attends to nine wires, assisted nights by Rob Fox; at the freight office we find F. H. Bigger. Seven miles out of the city we are at the beautiful suburban town of Turner, where Mr. Chas. A. Wood, officiates as agent, operator, and postmaster. At Wilder, Mr. E. L. Dean is operator and assistant agent. Cedar Junction is presided over by F. A. McPherson as agent and operator, with Mr. Kneip, nights. De Soto is attended to by J. A. Smith, agent and operator. At Eudora we find Mr. S. V. Carr agent and operator. Lawrence is held down by G. C. Bailey as day operator, with Mr. Klaiber as owl. Mr. A. G. Hitchcock manipulates and officiates as agent at Leecompton. At Topeka we reach headquarters. At "D" office we find Mr. B. McMurtrie, our popular chief train dispatcher, Mr. Chas. Guertisen assisting nights. Mr. Parks, "the fast man" at same office, attends to general business. Our justly popular superinten-

dent of telegraph, Mr. R. B. Gemmell, is here located. Mr. Gemmell is also master of trains. The road is doing a heavy business, and contractors are rapidly building an extension from Santa Fe, N. M., to Guaymas, Old Mexico, on the Gulf of California. "Wd."

Northern Div. L. S. & M. S. R. R.—W. E. Taft is agent and operator at Millbury, and Mr. Dimick, owl. At Martin, C. C. Earl is agent and operator, and J. F. Casey "boss sleeper." L. B. Bailey is agent and operator at Graytown. H. F. Stern is subbing for Mr. Martin, who is recruiting. O. C. Stedman is in charge of Rocky Ridge. J. F. Hiner and S. T. Hazen are at Oak Harbor. T. S. Une and B. T. Harford at La Came, Wm. Lohr and Mr. Spencer at Pt Clinton. A. B. Shaw at Gypsum. Mr. Hitchcock is agent and operator at Danbury. The night men are constantly changing, on account of "fevernague." Messrs. Moore and Hummel are at Venice. Miss Young is manager at Sandusky. H. J. Dunn assistant, and Mr. Lee, owl. Gib Lewis is at Sandusky Junction, W. F. Merion and J. H. Murphy at Perkins. J. H. Wright and J. W. Lawson at Huron. P. S. Shoupe and Mr. Reidy at Ceylon, Will Reid at Ceylon Pit, Mr. Miller and "Ted" Duross at Vermillion, F. Sconton and "Tony" Howard at Vermillion Switch, Messrs. Conklin and Delano at Brownhelm. Miss Shoupe at North Amherst. Jack Frost Thiemann at Double Track Switch. Elyria is looked after by Messrs. Bassett, manager, Beebe, assistant, and Gayly and Geo. Arnold night men. Thos. B. Earl is extra operator. Our boys are beginning to see the folly of teaching students, so that we have very few on the line now. BLINKER.

THIRD DIVISION B. AND O. R. R.—Commencing at Grafton, W. Va., the northeastern terminus of the Parkersburg branch and its junction with main line, we find Mr. A. T. Cline, a genial gentleman and first-class artist, as division operator and manager of Grafton office. He has two faithful day assistants, Messrs. C. H. Brendell and B. F. Vance. Mr. Ed. Watters is night man and "6s." Every half hour from 12 to 6 o'clock A. M. At Newbury Thos. M. Clayton is manager and ticket actuary, and Wm. Anderson presides at night. Next comes the famous Kingwood Tunnel; at the West End W. S. Haywood, an "old timer" and amateur actor, is day man, and Wm. J. Lavelle, who bears the appellation of "Baby Elephant," avoirdupois 200, "owl." At East End Tunnelton, J. E. Wolcott is manager and operator, John H. Zimmermann, the "Tom Thumb" of the line, is night man. Troy Run is ornamented by L. G. Cockrell, shoemaker, cabinet-maker, and day man, P. A. Malony "holds the fort" at night. At Buckeye Mr. M. A. Duval is day man, and "Johnny" Graham night man. At Rowlesburg Mr. W. W. Shoch is agent and operator, and O. Annan, night artist. At Cranberry Summit we find "Dave" Lovenstein manager, and W. S. Maynard in charge nights. Altamont would cease to exist without J. B. Cassidy manager, and Henry Grant, "owl." Now comes Piedmont, terminus of the third division, Mr. Will H. Cline is manager, and can "rush" any of the boys, at night Mr. Newham manipulates the wire and signs "Ju."—"NEMO."

MARRIAGES.

BURRELL—TORRENCE.—October 16th, at the residence of J. E. Palmer, Mansfield Valley, Pa., by the Rev. J. L. Deens, Henry M. Burrell, of the Pittsburgh W. U. office, to Miss Maggie E. Torrence.



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- No. 5. An Operator in his office; with view from window, showing locomotive bearing appropriate telegraphic signal number "73."

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100 " " " without Name, 50 "

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We shall send the following publications, pre-paid by mail, to the same or separate addresses on receipt of price marked. Of the books, "Wired Love," "General Grant," "Lightning Flashes," and "Christmas Evergreens," are each bound in cloth, "Oakum Pickings" and "Sam Johnson" are in cloth or paper, as stated in each case.

The large number of combinations given will enable the purchaser to choose the books he most desires, and thus get them at wholesale price. Should any, however, desire a combination not given below, if they will write us we shall be pleased to quote them the price. Where telegraphers' visiting cards and telegraphers' New Year's cards are mentioned, the price quoted covers the printing of the name on each card. Should an address also be desired, send ten cents extra.

If THE OPERATOR is desired until January 1st, 1881, instead of one year, send ten cents in addition to the price quoted below. Where cloth-bound copies of "Oakum Pickings" or "Sam Johnson" are wanted where only paper-covered copies are advertised, remit twenty-five cents additional:

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THE OPERATOR one year and General Grant.....	2 00	1 75

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Persons desiring to subscribe for THE OPERATOR or to order any of the telegraphic publications advertised in this issue, can either write a letter similar to the one below, or cut out this advertisement, fill in the blanks, and forward it with the money in an envelope addressed: "W. J. JOHNSTON, PUBLISHER OF THE OPERATOR, P. O. Box 3,332 NEW YORK." If anything not included in the list below is wanted, they can be added on the blank lines:

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A dollar in paper currency inclosed in a stout envelope will be reasonably certain to reach us. Money sent in that manner, however, is at the risk of the remitter. When the amount is over one dollar, a post office order, or a draft on New York, payable to the order of W. J. Johnston, should be procured, or else the letter registered. Money sent in either of the latter ways is at our risk. For fractions of a dollar, or where it is inconvenient to send cash, U. S. 1, 2, or 3 cent postage stamps will be accepted, though the cash is preferable. Don't send mutilated or worn-out currency, as it is impossible to use it except at a discount. Silver, except in small amounts, should not be sent in an unregistered letter. It is more satisfactory to send remittances to the publisher direct, but we have a large number of agents who will furnish the books and papers at the above prices.

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Publisher of The Operator,

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A VOLUME OF CHOICE

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The book also contains a brief and interesting life of PROFESSOR MORSE, by Benson J. Lossing, the well-known historian; and a Telegraphic Sketch, by Charles Barnard, Editor of "World's Work," *Scribner's Monthly*, both handsomely illustrated.

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Few books devoted to a particular class of literature have called forth so many encomiums from press and public, or been read so extensively or so thoroughly, both by the profession for whose special delectation it was prepared, and by the general outside reader, as has the above book, "LIGHTNING FLASHES." The reason may be told in a few words: the book is made up of short, bright, crisp, ably-written stories and sketches from the pens of all the foremost writers in the ranks of telegraphic literature. Between its covers will be found a little of everything, and an infinite variety of styles. Prose and verse—mirth-provoking, witty, rollicking, humorous, pathetic, tender—from grave to gay, from lively to severe. The matter it contains has been carefully selected and arranged by the editor of THE OPERATOR, who also contributes to it, and nothing has been admitted into its pages that is not of a high order of literary merit, and of permanent interest to the telegraphic fraternity. It is beautifully illustrated throughout on tinted plate paper, by artists belonging to the telegraphic profession. The paper on which it is printed was manufactured specially for it; the pictures were drawn and engraved for it; and most of the sketches were also written specially for it. The paper is thick, smooth, and fine; the binding and general getting up handsome and substantial, and the appearance rich, neat, and attractive. The book makes a beautiful ornament for a parlor table; and for a present—especially a holiday present—to a friend, old or young, married or single, in or out of the profession, nothing could be more appropriate. The size of the page is a large octavo double column, and the book contains more than three times as much matter, besides pictures, as ordinary \$1.50 books. One article alone, that by Benson J. Lossing, LL. D., the well-known historian and personal friend of Professor Morse, is well worth the entire price of the volume. With this article are given an excellent portrait of Prof. Morse; Morse's first recording telegraph; fac-simile of the first telegram, with a fac-simile of Prof. Morse's indorsement of it; Morse's residence at Poughkeepsie, and other illustrations, and the article itself contains a brief life of the great Father of the Telegraph with which every operator in the land should be thoroughly familiar. The price of the work was placed at the low figure of \$1.50, because we believed that a large number of copies would be sold, and we have not been disappointed. "Lightning Flashes" will afford delightful reading either for summer or winter, and no telegrapher should be without a copy.

The oldest newspaper on the continent, the *Philadelphia North American*, says of "Lightning Flashes": "Typographically, it is a handsome production, being illustrated with numerous well-executed cuts of excellent design, and of a humorous character. The contents consist of a large number of bright, spicy, piquant and humorous sketches from the pens of the best telegraphic writers, who have dressed them in smooth and entertaining language. It also contains an instructive and interesting history of Prof. Morse, from the pen of Benson J. Lossing."

"Lightning Flashes," says the *Glen Falls, N. Y. Republican*, "is a melange of history, poetry, narrative, humor, fun, wit, wisdom, profusely illustrated, and contains an interesting summary of the leading features in the life of Samuel F. B. Morse, inventor of the electric telegraph, including his earliest efforts, trials, and subsequent success."

The *London, England, Telegraphist* says: "LIGHTNING FLASHES AND ELECTRIC DASHES is fairly entitled to be styled *unique*, and reflects great credit upon all concerned in its production. Everything in the work is thoroughly telegraphic and highly amusing, the cartoons are cleverly executed, the narratives pithily and in part brilliantly worded, while the variety supplied will make it difficult for any who may have the privilege of reading the book to do so without enjoyment. We heartily recommend the work to our brother telegraphists."

The *N. Y. Hebrew Leader* says: "It is a work of valuable information, spiced with startling and humorous incidents of life, and is the second book published giving telegraphy a literature of its own. The first was very successful, and we should judge that this one will be fully appreciated by the reading public. Every person who has the fortune to see this volume will desire to possess it. The field for this kind of literature is much larger and more productive than we realized, and we shall look forward for fresh gatherings of the rich harvest it seemingly affords for charming summer reading."

The *New York Graphic* says: "Lightning Flashes" is an interesting collection of anecdotes and adventures peculiar to telegraphic experience. Few occupations are so well calculated to furnish material for mirth as telegraphing. It offers such wide scope for the exercise of personal peculiarities on the part of those who invoke its aid, and its extensive range, including all sorts of people, incidents of a peculiar and amusing character are of frequent occurrence, the nature of which is well set forth in this entertaining volume. The book is written in a bright and sparkling style, and the numerous illustrations lend an additional interest to the work, which we have no doubt will meet with an extended sale."

The *Harrisburg, Pa., Independent* says: "We do not know that we have ever opened a volume that promised more genuine or wholesome entertainment, or that in the reading of which so fully realized our expectations of enjoyment, than did these 'Lightning Flashes.' The interest of the reader commences with the initial chapter, and from this to the end of the volume there is nothing but a succession of pleasurable surprises. Of course the burden of most, if not all, the articles is of magnetic telegraphy, but the history and experience of that wonderful art is brimful of wisdom, fun, humor and wit, of which Mr. Johnston has taken advantage, and given us a volume that will take a high rank among the encyclopedias of anecdotal literature. The volume contains a number of finely executed engravings, illustrative of various parts of the text, while the binding and embossing are of the most superb character. Altogether the book is one of the best issues of its kind during the season, and should command a very large sale."

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General Ulysses S. Grant:

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Presidential Administration and Tour Around the World.

BY J. K. LARKE.

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The only Complete Life of the Ex-President Published.

The honors showered upon General Grant in every country he visited during his recent triumphant tour around the world, as well as the enthusiastic reception accorded him on his arrival at San Francisco on his return, cannot fail to re-awaken an interest in that illustrious soldier that a mere narrative of his travels abroad will not wholly satisfy. His countrymen, and especially the rising generation, will desire at this time to read something of his earlier life, and particularly of the important part he took in the crushing out of the late rebellion,—of those brilliant military achievements during that terrible struggle for national existence that first brought his name prominently before the world as a great commander.

Stated in a few words, the aim of this volume is to give a complete, authentic and impartial biography of General Grant's boyhood; life at West Point; services in Mexico, Oregon and California; civil life, after resigning his army commission; re-entering military service on the outbreak of the rebellion, with his gradual rise from colonel of volunteers to general-in-chief of the armies of the United States, as well as all his campaigns and battles, from Belmont and Fort Donelson to the surrender of Lee and close of the war. To this is added a brief account of his nomination and election to the Presidency; some of the most important features of his administration during his eight years as Chief Executive of the nation, and a succinct history of his tour around the world, from the time he left Philadelphia, May 19th, 1877, until he reached San Francisco on his return, September 20th, 1879.

"I wish to do simple justice to General Grant when I say that his treatment of the Army of Northern Virginia is without a parallel in the history of the civilized world. When my poor soldiers, with famished faces, had neither food nor raiment, General Grant immediately issued the humane order that 40,000 rations should be furnished to the impoverished troops. * * * Both as a gentleman and an organizer of victorious war, General Grant has excelled all the North's most noted soldiers. He has exhibited more true courage, more real greatness of mind, more consummate prudence from the outset, and more heroic bravery than any other of the Federal Commanders."—General R. E. Lee.

Both books are for sale at all the leading book-stores, or can be ordered through any book-seller or news-agent.

Either, or both, as well as any other of the publications advertised in this issue, will be mailed, postage prepaid, on receipt of price, by the Publisher.

General Grant and either Oakum Pickings, cloth, or Sam Johnson, paper.....\$1.50
THE OPERATOR, one year, and General Grant..... 1.75
General Grant and either Lightning Flashes or Christmas Evergreens..... 2.00

W. J. JOHNSTON, Publisher, P. O. Box 3,332, New York.

Dashes Here and There.

The word telegraph should be pronounced *te-leg-ra-phy*, not *tel-e-graph-y*.

A cable dispatch from London states that the Caspian Sea submarine telegraph cable was successfully laid October 14th.

Lives of linemen oft remind us
We should shun such work with care,
Or circumstance may some day find us
Sixty-five feet in the air.

"Twenty lbs. turkey at once, also what *be over* (beaver) you have." The culprit in this case had better beaver-y careful or he may die a sudden death *be over* exertion.

"Wired Love," is a most original little book. We have had Cupid under all sorts of guises, with his arrows barbed with all sorts of incongruous things, but never before have we had him using for a weapon the immortal invention of Morse.—*Boston Traveller*.

The duplex is unquestionably a great success, but when it is kept going steadily at high pressure, it wears a man out in just about half the time of a single wire; furthermore, in order to get the best service from it, there must be absolutely no breaking, and this is something not easily accomplished.

A too presumptuous reporter called on Mr. Edison one day last week, and began his interview with the question, "This electric light—" He got no further, and has not been seen since. All that is known is that Edison chased him out of the laboratory with one of those improved shot-guns that discharge eighty-four balls a minute.

"Where did you say you are?" asked General Grant, in amazement, while Mrs. Grant stared with eyes wide open, and lips apart. "Way down here, at the foot of Market Street," replied Gov. Perkins, chuckling audibly over the wire. "It's a good joke," exclaimed the General, turning to a hotel clerk who was standing in the room, "but I don't catch the meaning." "This, sir," said the clerk, with the air of a man of superior civilization, "is a telephone. It was invented by—" "Oh, yes, indeed, General," interrupted Mrs. Grant, "don't you know, we read about it."—*San Francisco Paper*.

"Christmas Evergreens" is an elegant, full gilt, well-printed and finely illustrated volume. It displays excellent taste in mechanical execution, while its poetic selections are of the very best character. Many of the selected pieces are old favorites which will continue to hold their place in the affections of the lover of true and elevating poetry for many centuries to come. Longfellow's "Paul Revere's Ride," illustrated, leads the volume. Mr. Bryant's "Snow Shower," Goldsmith's "Deserted Village," and Knox's poem, the favorite of Abraham Lincoln, are given among others, all excellently illustrated. The volume makes a fine Christmas present.—*Providence Star*.

When Mr. Edison said that he was about to produce a practical, economical electric light for general use, the entire business world took it for granted that it was forthcoming. Gas stocks tumbled both in this country and in Europe, and the people waited for the coming light. Scientists having had experience in this direction shook their heads, but for the most part suspended judgment. Delay on the part of Mr. Edison comforted the holders of gas stocks, and confirmed the scientists in their belief that he had undertaken not only a task of great magnitude and difficulty, but one that would require more time and means than could be controlled by most experimenters. But Mr. Edison, flushed by his scientific victories, was undaunted, and determined to yield to no obstacles. Unfortunately, however, the daily papers from time to time printed reports of progress in electric lighting, which, from their extravagance and inaccuracy, placed Mr. Edison, to say the least, in an extremely embarrassing position as regards his alleged promises, and the expected fulfillment of them, besides misleading the public as to the true nature of the problem to be dealt with, resulting in a reaction of feeling prejudicial to Mr. Edison's just fame. At present little is said by Mr. Edison concerning his electric light, excepting that he considers it an assured success, and that he is perfecting the details of his electric lighting system as rapidly as possible.—*Scientific American*.

Reductions in Price!

Third Edition of the Spicy, Attractive, Entertaining, and Popular Work,

OAKUM PICKINGS.

A Miscellaneous Collection of Stories, Sketches, Essays, and Paragraphs, Telegraphic and General, contributed from time to time to the Telegraphic Papers, New York Graphic, Hearth and Home, Danbury News, and other first-class Journals, by Mr. Walter P. Phillips, Assistant General Agent New York Associated Press, under the nom de plume of John Oakum, with a fine Steel Plate Portrait of the Author.

Third Edition, 188 pp.; Medium 12mo; Full Cloth, 75 c.; Paper, 50 Cts.

THE demand for copies of OAKUM PICKINGS has been so great that already two entire editions of the work have been sold, and still, like *Oliver Twist*, the Telegraphic fraternity calls for more. So many requests have reached us for an edition of the book at a price which every Telegrapher in the land can afford to pay, that we have now issued OAKUM PICKINGS, printed on paper equal in quality to that used in the best edition, with a steel-plate engraving of the author, and substantially bound in strong paper at the very reasonable price of Seventy-Five Cents a copy. The printing, binding, and general appearance of the book is acknowledged by both telegraphers and public to be of the very neatest and most tasteful description, while both individuals and newspapers agree that its contents are of an unusually amusing, lively, humorous, and thoroughly interesting character.

The enthusiastic and very gratifying welcome accorded this, the first book ever published with the object of giving the telegraph profession a literature of its own, has been so general and hearty on the part of both telegraphers, press, and general reading public in all parts of the country, that the publisher, in preparing the third edition, now ready, has been encouraged to make numerous important additions and improvements at increased outlay, which it is believed, will make the book a still greater favorite, and secure for it an even more extensive circulation and appreciation.

MR. PHILLIPS, the author, is so well known to the fraternity as a spicy, original, witty, entertaining, and popular contributor to the current telegraphic and humorous literature of the day, and his character sketches of "Jim Lawless," "Tip McClosky," "Posie Van Dusen," "Cap. De Costa," etc., have won for him so enviable a reputation as a humorous sketch writer, that this opportunity of possessing a copy or his very choicest writings—the cream of his contributions to the telegraphic and general press—in one handsomely-bound volume, at a remarkably reasonable price, will, we feel certain, be considered a rare treat by many hundreds of telegraphers and others who have made his acquaintance through these sketches.

CONTENTS OF OAKUM PICKINGS.

The book is divided into two parts. Part first contains 127 pages, embracing sketches, stories, essays, etc., each having a separate title, while part second, from page 128 to the end, contains thirty-three MINOR PARAGRAPHS, or short articles without titles. The contents are:

Love and Lightning,	Little Tip McClosky,	Block Island,
Old Jim Lawless,	Stage Coaching,	Bad Medicine,
Thomas Johnson,	Posie Van Dusen,	The Bloodless Onslaught,
Cap De Costa,	The Blue and The Gray,	Statistics,
Uncle Daniel,	An Autumn Episode,	Departed Days,
Summer Recreation,	An Old Man's Exegesis,	Minor Paragraphs.

What the Newspaper Press have to say of "Oakum Pickings."

Highly amusing.—*N. Y. Times*.
Bright, witty, and full of humor.—*Publishers' Weekly*.
Short, realistic, lively sketches, illustrative of his own profession.—*N. Y. Tribune*.

The stories are short, bright, well written, and possess a flavor of originality really attractive.—*N. Y. Telegram*.

The book is made up of short, lively, clever, amusing, and very readable sketches. No book recently issued is better adapted to while away a tedious hour.—*New York Dispatch*.

There is not a dull page in the work.—*Telegrapher*.
Original and unique, humorous and pathetic.—*Augusta Chronicle*.

If you can read the book without saying "John, go and do some more," you are less susceptible to what is good than we are. Try it, and see.—*Elmira Advertiser*.

The best faucies of a fertile brain, smooth in style, and epigrammatic, but not flashy. There is in them all a quiet undercurrent of quaint dryness, that is irresistibly attractive.—*American Bookseller*.

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THE OPERATOR will be mailed as above from the present time until January 1st, 1881, for \$1.10. See How to Subscribe, page 11.

W. J. JOHNSTON, Publisher,
P. O. Box 3,332, New York.

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Although "Christmas Evergreens" was first issued very late in the season last year, the book met with so much favor, both among the trade and the public, that the entire edition was soon exhausted, while several orders, coming in late, had to remain unfilled. Encouraged by this flattering reception of his first effort toward furnishing a really handsome holiday book at a low price, the publisher has this year so ENTIRELY RE-ARRANGED THE WHOLE BOOK, cutting out a few of the old pages and ADDING MUCH NEW MATTER, including a DOZEN FINE CUTS AND A BEAUTIFUL FRONTISPIECE, that "Christmas Evergreens" for this year is virtually A NEW BOOK, and—the publisher thinks he can safely claim—at least AS HANDSOME A VOLUME AT THE PRICE as has ever been issued by any publisher, American or foreign.

Indeed, an examination will demonstrate that the edition of "Christmas Evergreens" for this year compares very favorably with any of the ordinary three, four, or even five dollar holiday books, either as to contents, illustrations, typographical appearance, paper, printing or binding. The publisher would thank all interested in the matter to make the comparison.

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We can indite no word notice of this volume that will do justice to its merits. It is a beautifully printed and bound souvenir for the holiday season, and is among the rarest and best of that class of literature.—*Washington Republican*.

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AGENTS FOR 1879-80.

We desire, if possible, to secure a reliable and energetic agent for our publications in every city and town in which there is a telegraph office. The books being handsome, and the retail price low, sell well both among outsiders and telegraphers, while the commissions are so liberal that agents can derive a nice little extra revenue with but little exertion, and without in any manner interfering with their regular duties.

"Christmas Evergreens," "Lightning Flashes," "General Grant," and "Wired Love" are each bound in cloth, and are as readily understood and appreciated by the general reader as by telegraphers. No agent who takes the slightest interest in the matter can fail to sell a large number of copies of at least the above four among his acquaintances, in addition to securing orders for these and the others—"Oakum Pickings" and "Sam Johnson" are more especially interesting to telegraphers—among the members of the telegraphic fraternity in his vicinity.

Several agents did very nicely last year, although only one book—"Christmas Evergreens"—was tried. This year there are not only three additional books—two of them new—but "Christmas Evergreens" has been so thoroughly rearranged and improved that it also is virtually a new book. One agent last year wrote us that every one he showed "Christmas Evergreens" to was "delighted with it." Another said: "The book wins praises from all who see it." Still another, in acknowledging receipt of a number of books ordered, and ordering more, said that "all were very much pleased with it," and that if he "had time to run out during the day he could sell a large number of these beautiful books." A gentleman in Austin, Nevada, wrote: "This evening I called at the places of business of a few of my friends and got 22 more names. Please send 23 copies in addition to the 6 ordered this afternoon."

The edition for this year is so neat and attractive that agents will find no trouble whatever in selling copies of the book to every one of their acquaintances who intend making Christmas presents.

Price to Agents.

To regular agents we will sell the books at the following low price, securely wrapped, and mailed, postage prepaid, either to them or direct to their customers:

	Regular Price.	Price to Agents.
Christmas Evergreens (cloth)	\$1 50	\$1 00
Lightning Flashes (cloth)	1 50	1 00
General Grant (cloth)	1 00	75
Wired Love (cloth)	75	50
Sam Johnson (paper)	75	50
Oakum Pickings (cloth)	75	50

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Drop us a note that you desire to act as agent, and saying how many circulars you can judiciously distribute. These will be mailed you free and postage prepaid. Remit at same time for at least two of the books, although four—"Christmas Evergreens," "Lightning Flashes," "General Grant," and "Wired Love"—would be all the better. You will then be in a position to let intending purchasers see what the books are like, and will have no difficulty in selling those ordered and many more.

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See that post-office orders are made payable to W. J. Johnston (not Johnston), and address your letter distinctly:

W. J. JOHNSTON,
Publisher of The Operator,
P. O. BOX 3332, New York.

Echoes from 197 and City Items.

The annual meeting of the Telegraphers' Mutual Benefit Association takes place in this city, on Wednesday, November 19th.

F. G. Lyon has been appointed electrical inspector, of the A. D. T. Co., and will have charge of all electrical matters of the company.

The remarkable saving that has been made in expenses, as per the Western Union Annual Report, is owing almost entirely to the great financing capacity of the talented young vice-president.

Mr. P. P. Hauff has been appointed manager of the A. & P. office at 145 Broadway, vice Mr. W. J. Dealey, resigned to accept the managership of the new American Union Company's office, Mr. R. D. Riley is chief operator.

What is considered a fair day's work? There are men in the branch offices who handle between three and four hundred messages every day, in addition to office work, up to 5 P. M., and yet have to work to 9 P. M. twice a week.

The fall games of the Western Union Athletes will take place on the grounds of the Manhattan Athletic Club, 8th Ave. and 56th St., on Friday, November 7th, at 2 o'clock. A cordial invitation to attend is extended to the fraternity. Admission free.

And now the small boys relieve the ladies in the city line department for lunch. Whether they like it or not (I mean the ladies; the small boys unquestionably do) is not very difficult to say. Encroachments are being made step by step, until eventually there will be no distinct ladies' department in the room.

The wife of a prominent railroad official, stopping in a New York hotel, recently sent a message to a W. U. office, thence: she wrote it on a regular blank, put it in an envelope, and sealed it; then, gumming fast a dead head stamp, directed it to the address on the message. Just how she imagined the message would be delivered is a mystery.

There is a great deal of quiet negotiation going on between the American Union and the men in almost every position who have appealed repeatedly, and in vain, for a little justice and fair play from the Western Union. Of course the talented young Vice-President will not listen for a moment to the proposal to make their situations more acceptable—not at least until he becomes convinced that they are ready to depart. He may then discover that he has let the opportunity slip. Some interesting developments are at hand.

It is a singular fact that when a relief is required for a day or so in the city line large delivery offices, the same man never returns from the general office the second time. To use an expressive, though not very elegant term, they don't like a "roast," and are very certain to get it here. Yet their day's work is done at 5:30 P. M. in the general office, while the men whom they temporarily replace have this kind of thing for a daily diet, and two long days in addition. The old adage, "justice is blind," is particularly appropriate here.

A decayed pole belonging to the Western Union Telegraph Company fell in College Place on Monday morning. It was heavily laden with wires and broke with a tremendous crash, falling across the street from west to east. A crowded Eighth Ave. car, which happened to be passing, escaped being crushed only by about three feet. The passengers were badly scared, and several ladies screamed with fright. In its fall the pole drew the wires to such a tension as to tear away nearly all the glass insulators on the next pole, and to render unsafe all those between Barclay and Chambers Streets. Five poles have been fractured so badly that they will have to be replaced by new ones.

We have a new operator on our wire. She signs "Ma." The other day a message was passing over the wire, when the receiver broke on the word "mama," and the sender repeated it. Immediately our lady visitor chimed in with her "— — — — —" The sender started again at the word ahead of "mama." Once more she broke in "— — — — —" Six several times did they try to pass the word, but our friend was determined that she should know who wanted her. At last, in despair, they dropped the word and went ahead the word following. Afterward "Ma" called up the central office, and wanted to know who was calling her; that she answered "ever so many times." A copy of this in THE OPERATOR (which we hope she subscribes for) will be the first intimation the lady will have why she did not get an answer to her "— — — — —" Q. G.

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Catalogues or ordering articles advertised in our columns will do us and our Advertisers both a great favor by mentioning that they saw the Advertisement in

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The object of this book is to portray the inside life of Railroaders and Railroaders, that part which is peculiar to themselves as a class, and of which the public have no just conception. The author has not confined himself to a dry detail of facts and figures, but has endeavored to depict dangerous and excitable, as well as laughable, incidents of actual occurrence, in a humorous, instructive, interesting, and original manner. The book also contains much information that cannot be presented statistically. It is life history, and is intended to give "an insight into the inner life of Railroaders, a view of the daily and nightly workings of the busy bees who manipulate the two greatest agents of modern civilization—Electricity and Steam. It shows their virtues, their follies, and their humors, the dangers and privations they undergo, as well as the pleasures and happiness they experience."

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The card for 1880 is smaller and much neater than that of last year, and, it is believed, will only require to be seen to be appreciated. The cards will be ready between the middle of November and the first of December, so that all orders can be filled in ample time. The price will be the same as last year:

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50 cards, " " " " " " " " " " "

100 cards, without name... 80 cts., " " "

Address, or more than one name, ten cents extra.

The design for these cards has been prepared, this year, as last, specially with a view of giving Telegraphers, a distinctively Telegraphic New Year's Card—one that will be neat, pretty, and appropriate; different from any other New Year's Card, and so unique and handsome as to attract attention and deserve preservation.

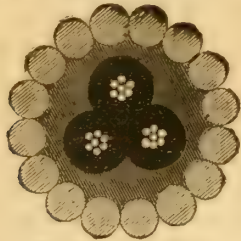
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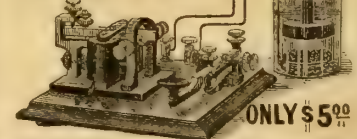
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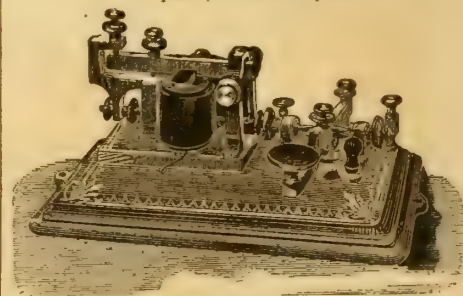
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The OPERATOR

A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY.

VOL. X.—No. 22.

NEW YORK, NOVEMBER 15, 1879.

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THE OPERATOR.

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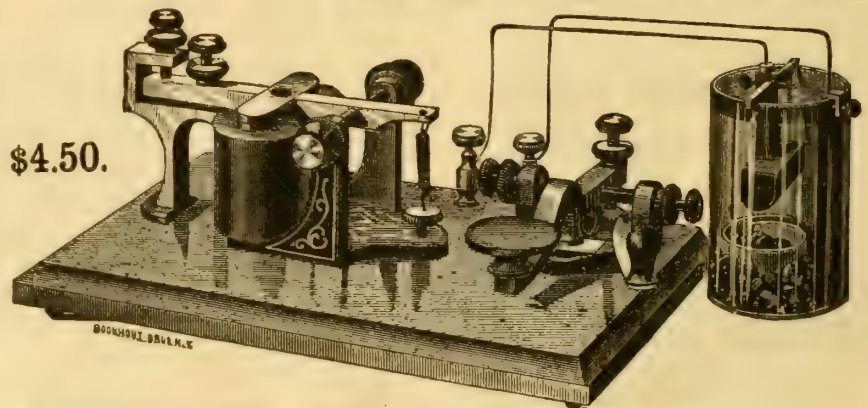
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THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

November 15th, 1879.

Volume X.

Whole No. 138.

The Dawn.

Addressed to the operators and managers of the Western Union Telegraph Company, in view of the prospects offered by the American Union Tel. Co.

Ye who in darkness sat so long,
Sad, waiting for the day,
Lo! yonder in the brightening East
The first white splendors play.
Arise, rend off your manacles,
Draw in the morning air,
Lift up your heads, lift up your hearts,
Cast off your dull despair.

Not all unknown your sufferings,
Not all unheard your cry,
E'en when most hopeless seemed your cause
Deliverance was nigh.
The spoiler in his snare is ta'en,
The crafty in his guile,
The boa's fatal spell is broke—
Severed his awful coil.

The wise ones of the earth are fools,
Weak is the strong man's might,
And human schemes and human powers
Must yield to human right.
The tyrant stoops before the slave,
Down to the very dust,
And in his cringing Salaam owns
Your humble claims are just.

Ye Western Union slaves stand up,
Ye, tested by the fire,
Now shall the servant have his wage,
The laborer his hire.
Cheer up, ye who for years have borne,
Robbed of your hard-earned due,
Shorn of his strength, and weaponless,
The robber sues to you.

* * * * *
Ho! Western Union tyrants, hark!
Gloat o'er your hoarded gold;
Poor passport through the gates of death
Is all the wealth you hold.
Count o'er your store, on every coin
A tarnished spot appears,
Which all your handling won't efface—
The rust of human tears.

Rather would I in need creep on
Through twice my present toil,
Than all the wealth you call your own
My humble hands should soil.
More sweetly do I sleep at night,
Though hard my bed and spare,
And in the last long sleep your dreams
My grooves will not scare.

LUDLOW GROVE, O., Nov. 7, 1879.

SUMAC.

Her Father's Daughter.

A recent issue of the English magazine *Chamber's Journal*, contains a partially telegraphic story with the above caption. As usual, the writer displays an intimate knowledge of the business not possessed by men who have devoted their lifetime to it. For instance, he says in one place that the hero put into the hands of his wife "a certificate of proficiency from the school of telegraphy, at which he had been taking lessons for several weeks past." This startling assertion must be based upon the advertisement of some telegraph college. "A certificate of proficiency" after "taking lessons for several weeks past" is good—too good, alas! to be true.

The story is somewhat long drawn out, containing four chapters. For the benefit of the readers of *THE OPERATOR*, however, we give it herewith in a more condensed form.

A Miss Alice Crewdson, daughter of a proud, obstinate, and wealthy man who had made most of his money on the Stock Exchange, married a poor "literary fellow" named Gerald Rivers.

This so displeased the elder Crewdson that he disowned Alice and her husband, and refused either to see them or answer their letters. He promised, however, that on the day that Alice or her husband should produce six thousand pounds—thirty thousand dollars—he would overlook the past, and give Alice the six thousand pounds that he had intended as her wedding portion, had she married in accordance with his wishes.

To gain this large sum, Alice first induced her husband to study telegraphy. She next obtained for him, through her god-father, and under the name of Mr. Hunstone—Mr. Rivers' second name—the position of station agent and operator at Leaswood, the station nearest Brookfield, her father's residence. This done, she engaged with a broker in London to purchase for her, on receipt of a dispatch from Leaswood at any time, such stock as she should indicate.

Day passed after day till several weeks had come and gone, during which time a considerable number of telegrams reached Leaswood station for Mr. Crewdson, each one of which was shown to Alice by her husband before being sent out for delivery by a special messenger. More than one of these telegrams was in cipher, but that fact did not seem to cause Mrs. Rivers much difficulty. Before her marriage, and during her father's frequent attacks of gout, she had often acted as his secretary, and the keys of the two different kinds of cryptogram made use of by certain of his telegraphic correspondents were thoroughly understood by her.

At length one day there came a message addressed to her father, which, when translated by Alice, caused her cheeks to flame and her eyes to light up with sudden fire, and set her whole frame aglow with intense excitement. It was a cable dispatch from her uncle Edward in New York, and, translated, read: "Buy up all the Deep Lips [Colorado mining stock] you can lay hands on. Struck oil once more. This may be relied on. Private information. Wall street in the dark yet."

Before having the cablegram delivered to her father, Alice wrote out and her husband sent the following message to her broker in London:

"Buy up, in my name, all the Deep Lip stock now in the market. Not a moment must be lost. I will be with you at ten to-morrow morning."

Alice looked at her watch. "It is now one-thirty," she said. "It will take the man an hour to get to Brookfield, and another hour to return, by which time it will be three-thirty. Allowing another half hour for a telegram from papa to reach Mr. Simmonds, his broker, that will bring the time four o'clock—too late in the day for business on the stock exchange. Boucher, my broker, will have had a fair start. If he does his duty, there will not be a Deep Lip share to be had for love or money by to-morrow morning."

"Which means," said Gerald, "that you are taking advantage of your knowledge of the information conveyed in your uncle's telegram, to forestall your father's action in the matter, and make the information worthless so far as he is concerned."

"That is precisely what I am doing," said Alice, with emphasis. "I was not my father's secretary for so long a time without learning something. He has refused to forgive me or to condone my marriage unless I can go to him with six thousand pounds. He does not ask me whether I am happy. He has no curiosity as to the kind of man I have made my husband. He simply says: 'Bring me six thousand pounds, and all shall be forgiven.' To meet his mercenary views, I must become mercenary myself. All is fair in love, war, and on the stock exchange. The moment the information conveyed in this message reaches my father he will take advantage of it by telegraphing to his broker to buy up every Deep Lip share in the market. I happen to see the message first, and I take the advantage of it; that is all."

Calling at the broker's office next morning, Mrs. Rivers found that he had bought largely of the stock which, for some time, had been considered almost worthless, as the mine was supposed to be all but worked out. In the afternoon she learned that Simmonds, her father's broker, had been inquiring after Deep Lips all day, but could

not obtain any, and had offered her broker a handsome advance on what he held.

The next morning's *Times* contained the following paragraph: "Reliable advices from San Francisco state that the Deep Lip Silver Mining Company have just struck a vein of unusual thickness. Shares are going up rapidly."

And so they did. Alice had left instructions with her broker to telegraph her every afternoon the closing price of the stock. For three weeks the shares went up day by day. At the end of that time they remained stationary for two days. The following morning they dropped one-eighth. Alice at once took alarm, and telegraphed Boucher to sell everything. Three days later a post-letter reached her, which showed that she had realized out of the lucky speculation seven thousand five hundred pounds.

Alice and her husband called upon Mr. Crewdson, and having, much to that gentleman's amazement, fulfilled the harsh condition, were, of course, forgiven. The story ends, as romances of this kind usually do, with a general reconciliation and good time all around.

The writer adds, however, that it was not till more than a year afterward, when Gerald had grown to be like a son of his own to the old man, that Alice told her father by what means she had become possessed of the information which enabled her to achieve such a happy result by her bold speculation in Deep Lip shares. And one would think that that was quite soon enough to say anything about the matter.

The Tables Turned.

TIME: *The present.* SCENE: *A Superintendent's Office. Enter, Operator.*

SUPERINTENDENT (soliloquizing)—I know that the American Union is a great and strong company, and that its projectors and officers are men of rare energy and perseverance; but why should President Bates desire to take the bread out of the mouths of poor, hard-working superintendents, by forcing us to increase the compensation paid employes, and thus nullify the brilliant idea of the Executive Committee, by which we were enabled to raise our own salaries by cutting others' down. My heart bleeds, moreover, to think of the hundreds of lone widow and orphan stockholders of the Western Union who will go to bed supperless when the company ceases to declare div— (Sees Operator.) Well, young man, what can I do for you?

OPERATOR—Sir, I am poor in pocket, indigent in independence, and a bankrupt in happiness—rich only in empty promises, affluent only in debts, and a millionaire in discontent. In me there meets a combination of antithetical elements which are at eternal war with each other. Driven hither by the manager—thither by the chief—wafted at one time into blazing day by the promise of an increase of salary so soon as a vacancy occurs in a grade above mine—plunged at another into the Cimmerian darkness of tangible despair by learning that the higher position has been "abolished" as useless, I have degenerated into a living ganglion of irreconcilable antagonisms.

SUPERINTENDENT (aside)—His simple eloquence goes to my heart; but what am I to do in the face of this letter from headquarters: "Dear Sir—If you cannot reduce the expenses in your district, we will put somebody there who will. Respectfully, etc." But I must do something. (Aloud.) Dismiss these foolish fancies; they torture you but needlessly. Is not the Western Union a philanthropic and kind-hearted corporation, with an eye single to the best interests of its dear employes (*vide the official organ*); and is it not its sole aim and desire to aid and assist its operators by every means in its power? The company, however—kind and thoughtful as it is—has sometimes very peculiar ideas as to the manner of rewarding those who have proved themselves its staunch and true friends. When a man remains faithfully in its employ for a few years, and steadily refuses to go over to the opposition, the Western Union, instead of paying him a big salary at the time, builds, equips, and makes him a present of a little telegraph line of his own;

appoints him to a good fat office, such as superintendent, head of some department, or perhaps even president, or else buys him a well stocked farm, or sets him up in business at its own expense. Why look at me. I used to be a plug myself, working for a small salary. At the time of the strike, instead of going out with the boys, I staid in. See what I made by it! I tell you promotion in the Western Union service is certain, if it is slow. The only secret is to keep quiet about your salary. Like Jeff Davis and the South, all the Executive Committee want is to be "let alone," but if you mention the matter of compensation to them, they will, just as like as not, get hopping mad, and give you neither a telegraph line, nor a fat office, nor a farm, nor anything!

OPERATOR—I don't care. I want an increase of salary!

SUPERINTENDENT (indignantly)—Sir!

OPERATOR—Aye even though Jove's armory were launched at the head of the audacious mortal whose lips, unhallowed by relationship with the superintendent or the Executive Committee, dared to breathe such a demand, yet would I breathe it once, and then, perchance, be silent ever more. In one brief breath I concentrate the doubts, the fears, the hopes of six weary years. I have served the company faithfully, and want an increase of salary!

SUPERINTENDENT—Sir! this audacity! You forget the self-sacrifice, the kindness, and the magnanimity of the Western Union, base ingrate that you are!

OPERATOR—I forget neither the "sliding scale" nor the "gradation." Too long the company has had the question of compensation in its own hands. Now, I fondly hope, a change is in store. Give me ten dollars a month increase, and what I lack in electrical knowledge and the handling of business, that I will endeavor to acquire. Refuse my request, and I will go over at once to the American Union. I am prouder than I was before the advent of the new company, and I cannot stoop to implore. I have spoken, and await your decision.

SUPERINTENDENT—You shall not wait long. Your application I haughtily reject! Go to the opposition, vile wretch, and I shall put you on the black list, so that you need never look for another job on the lines of the Western Union!

OPERATOR (writing)—I hereby tender my resignation, to take effect December 1st.

SUPERINTENDENT—Stay your hand! We'll increase your salary five dollars a month.

OPERATOR—I won't take less than ten!

SUPERINTENDENT—Very well, remain and you shall have ten. (Aside.) Verily this is THE TABLES TURNED with a vengeance.

The Cincinnati Telephone Exchange.

On the 1st of September, 1877, the first telephone line was constructed as an experiment in Cincinnati. It succeeded, and one year following, on the 1st of September, 1878, the Bell Telephone Exchange was opened, with eighteen subscribers. To-day 800 subscribers are on the Company's books; 800 instruments are in use in the city; 3,000 miles of wire, stretched over seventy-five miles of poles, connect them together; and the Company is even now away behind in orders. One year ago five men were sufficient to attend to the business of the Exchange; to-day, with new appliances by which one man can do the work then done by the entire force, a staff of at least twenty operators is required and kept busy, and the work has increased almost one hundred fold.

The history of the telephone in this city has been a wonderful one. It is a business that is daily growing, and those who have become accustomed to the use of the telephone would now find it hard to do without it, the uses to which it can be put being as varied as the wants of humanity. It is so simple, too, in its construction that a child can work it—unlike the telegraph, to use which the services of an operator who had spent years in mastering it, were required. It is an instrument whose capabilities are limitless. Whatever it is in the power of the human tongue to speak, the telephone can carry. It annihilates time and distance, and is destined,

when perfected, to revolutionize a great many of our social and business habits.

The Bell Telephone Exchange business in Cincinnati is under the management of Mr. W. H. Eckert, an enterprising young man, formerly connected with the Atlantic and Pacific Telegraph Co. in this city, and under his supervision the Telephone Exchange system has been here perfected until it stands away ahead of that of any other city in the United States.

The operating room, which is well worth a visit, is situated on the fourth floor. It is lighted by a glazed cupola, through which the wires are brought into the building, and is a room thirty by twenty feet in area. On two sides are ranged the "switch" tables, which, like everything else in the building, are of the latest improved manufacture. It is at these "switch" tables that the work of the Exchange is done, for into them run all the wires from the instruments located all over the city. They are the invention of Mr. Harry Jones, of the firm of C. E. Jones & Bro., electricians, and are the most complete of their kind ever invented. Before describing them, however, it may be necessary to describe the manner in which the telephone is operated.

From the instrument of every subscriber in the city a wire is run to the Exchange. When a subscriber wants to talk to any other subscriber (a list of whom is made out monthly and furnished to the owner of each instrument), he calls up the Exchange by ringing his bell. The Exchange answers, finds out what he wants and who he wants to talk to, calls up that person, and connects or "switches" their wires together; then signals to subscriber No. 1 that he can go ahead and converse with No. 2, and leaves them to talk together as long as they please. When they are through, they signal to the Exchange, and he disconnects them. When it is stated that the average number of "switches" made in the twenty-four hours is 6,000, it will be seen to what an extent the business has grown.

But, to return to the "switch" tables, of which there are twelve in this Exchange. These are in form a common writing table, with a square frame standing up in front of the operator and fastened to the table. Through this frame run the wires brought into the office through the cupola, each one of which is ticketed with the name of the subscriber to whose instrument it is attached.

In each frame are from forty to fifty magnets, to which these wires are connected. These act as holders for the wires and are numbered. Thus one end of each subscriber's wire is attached to the instrument in his office or home, and the other is fastened to this frame or the switch-board. The operator at every board knows the number of each subscriber. On the front of the frame facing the operator are a number of clamps, one to each magnet. There is also attached to each magnet a movable piece of metal, which works automatically. This is the marker, which tells the operator which line calls him, as it drops when the bell at the other end of the line is rung.

Underneath the table is a machine worked by a treadle, which generates the electric current by friction, and is connected by a wire with a clamp on the table. On the table is a key-board, like the key-board of a type-writer. It contains two large keys and a number of small ones corresponding to the number of wires on the frame. One of the large keys is connected with the generator and the other with a telephone, which is fixed on an upright fastened to the table within reach of the operator's ear, leaving him at liberty to use both hands. Hanging on a hook within reach of each table are a number of loops or sections of flexible covered wire, with a brass point at each end. This, with a microphone, also on the table, is the apparatus. Now as to how it is used. We will, to illustrate, take the first table, on which the connecting wires are numbered from 1 to 40. Suppose Mr. A has the telephone No. 1 and Mr. B the telephone No. 25, and that A wants to talk with B. He goes to his instrument and rings the bell. At that instant the little marker attached to wire No. 1 in the Exchange rattles and falls, attracting the operator's attention. He has one of his loops attached by one point to the clamp on his table connected with the generator, and as soon as he gets the call, takes the other point and inserts it in the clamp attached to wire No. 1, thus connecting the latter with the generator. At the same time he works the treadle and generates a current of electricity, which, by pressing on one of the large keys, he directs into wire No. 1. At the instant he presses this key, the current passes over the wire and rings A's bell. The operator slips his finger to the other large

key, and, applying his ear to the telephone, and speaking at the microphone, says, "Hello!" A, when he hears his bell ring, takes his telephone in hand, and, applying it to his ear, hears the "hello," and calls to the operator, "Put me on Mr. B," or "Connect me with Mr. B." The operator answers, "All right," and proceeds to call up B by directing a current of electricity from the generator through a loop, the point of which he has inserted in the clamp connected with B's wire. This current rings B's bell. He goes to his instrument, rings back an answer, his marker rattles and drops, and the operator, connecting his telephone with B's, as he did with A's, calls to him that A wants to talk with him. He then connects the two wires, 1 and 25, together by means of a loop, the opposite points of which are in the two clamps connected with their wires. This forms a continuous wire between the telephones of A and B, and the operator, having called to A—who has held his telephone to his ear—that B is ready, they go on with their conversation. By pressing either key No. 1 or key No. 2 on the key-board, and keeping his ear at the telephone, the operator can hear their conversation. He listens for a moment to satisfy himself that their communication is uninterrupted, and then takes his finger off the key. When A and B are through they inform the operator by a tap of the bell, and he takes away the loop connecting their wires, disconnecting them. Though the operation takes some time in describing, it is very quickly done, not occupying more than a minute, if the owners of each telephone are prompt in answering his call. The only delay is with them. The operator is always at his post, and can switch two parties together in a few seconds if they answer as soon as called.

As stated above, the system of switching in use in Cincinnati is the best in the United States. The old system was very clumsy, and required considerable time, besides which it was very noisy. Since Mr. Jones' switch-board has been adopted the business has been wonderfully simplified, and the switch-room, which, on the first opening of the Exchange, was a virtual pandemonium in its noises, is now, with twenty times the number of instruments, as quiet as an ordinary business office.

The Police and Fire Departments are all connected with the telephone, the old telegraphic system having been abandoned by the police, and news items or reports of disturbances or accidents can be gathered with ease and rapidity. Another feature of the telephone is that it can be used to furnish music to the homes of subscribers. About one hundred calls per night are made on the Exchange to furnish music in this way. The Exchange being connected by telephone with all the places of amusement, all they need to do when a concert or musical entertainment of any kind is being given is to place a microphone in the building, and every subscriber in the city, if he chooses, may sit in his home and hear it. Sometimes a subscriber has a party at his house, and desires some of his stay-at-home friends who are subscribers, to hear the music. He notifies the Exchange, and they put a microphone in his house for the occasion, and "switch" him on to his friends' wires, and they can enjoy his musical party at their leisure.—*Enquirer*.

Inside Workings of a Telegraph Office.

Yesterday afternoon, just after the paper had gone to press, a wild-looking and emaciated man came into the *Chronicle* office, and said he wanted to have a quiet talk with some reporter who was disengaged. It was easy to judge from his manner that he had a grievance, and the door of the reporter's room was immediately closed and locked. He seated himself, and brushing back his long hair, leaned his head on his hand and began:

"I'm one of the operators in the Western Union office, and —"

"Say no more," cried the reporter, reaching to the corner where the knotted bludgeon is kept, and spitting lavishly on his hands. You are the man who makes out our Eastern dispatches, and mixes up the war in Afghanistan with a steamboat explosion in Philadelphia, and then dovetails in a report of one of George Gorham's anti-railroad speeches with a crisis in the German Reichstag. You are the magneto-electric — who has driven four telegraph editors on this journal into premature graves, and made several well-to-do compositors microcephalous idiots. I am glad you are here!"

Just, however, as the reporter swung his club aloft, the operator looked up with an expression

that would have caused a telegraph insulator to exude tears of sympathy.

"Hold on; I'm a sender—not a receiver. I come here with some big grievances, and to ask you to tell the public how we suffer. Men come in every day and drive us almost crazy, asking foolish questions about our business. Men who appear quite sensible on the street, act like blasted imbeciles whenever they come in to transact business in a telegraph office."

"Please give us some samples of your annoyance," replied the scribe, patting the bludgeon.

"Put the club back in the corner, please. Oh, thank you. Well, a man comes in and wants to send a two-bit dispatch to Carson. He is a business man and wealthy. If he sees a crowd there he throws the dispatch down with a flourish and lays a five-dollar gold piece on it, but if he's alone he begins with: 'How much to Carson?' We tell him two bits, and he says that he understands that the tariff has been reduced, and thinks that a man who uses the wires so often, and sends less than ten words at a whack, ought to get special rates on Carson dispatches. Finally, when he sees he can't get a reduction, he gets the dispatch back, and, seeing that there are only eight words, tacks on two more to make the ten. For instance, where the dispatch reads: 'I received the goods all right this morning,' he calls for it again, and we have to yell up through the dumb waiter for it. Then he takes a pencil and, after studying about five minutes, writes 'Weather fine' at the bottom, and then after a minute scratches that out and puts in, 'How's everything?' Think of that from an old duffer worth \$100,000!"

"This country is full of such people."

"Then a man enters and begins to talk about telegraphy being a wonderful invention. He wants the Edison ticker and the duplex senders and receivers explained; but you might explain the business all day to such an idiot and he would never know any more than before. However, we keep a scientist regularly employed on a large salary to entertain these people when they come into the office. Then a man indulges in such remarks as: 'How much does it cost to send a message?' 'How many points can you send a message to?' 'How long does it take to send a dispatch to New York?' 'How soon can you get an answer?' 'Which is the easiest line to send dispatches over?'"

"Some of these chaps spend half an hour throwing these questions at us, and then walk out. It's a common thing for a man to ask: 'When will I get an answer?' Now, you can just tell them for me that it depends a good deal on the character of the man who gets the dispatch. If he is off on a drunk, it may take a day. If the dispatch is sent to San Francisco, and the man is in Arizona or Illinois, it may take two weeks. If they can't find the man at all, it will take some time. If he happens to be dead, why it's liable to take longer.—*Virginia City (Nev.) Chronicle.*

The Student Question.

How often has my heart been sad because I had not "the pen of a ready writer," that I might give my ideas to the fraternity in such a manner that they would be convinced of the error of their ways in regard to a practice that has brought us to the "ragged edge" of ruin, and done more than any one thing to bring our art to its present low standard of efficiency and salaries. I refer to the practice of taking students. Hardly one of us whose names have been on the pay roll for the last twelve years fail to remember students in more than half the offices on the line—a large majority of whom have succeeded in "getting a job," and, in many instances, of ousting the teacher and taking his office (Served him right!). The effect of this has been to flood the country with "operators" of various abilities, who would work for their board if they could be managers. Railway companies, as well as the "Great Monopoly," were not slow to see their chance to turn an honest (?) penny by encouraging the student business, for it soon enabled them to put out upon cut until we who had formerly been paid fairly what we fairly earned were forced to take our level with the common laborers, whose endurance and muscle were the only requisites necessary for the performance of their duties. Do you say that we might as well take students and teach them properly as to let them go to the colleges? It is a well known and conceded fact that the so-called "colleges" have never been of much injury to any except those who patronized them. Those who graduate (and they are few) seldom find encouragement or even toleration from telegraph

superintendents. They are incompetent, and not one in fifty can retain an office if by chance they ever get one. So from that source we have had but little to fear, and never will. The principal excuse that operators have made for taking students has been that it brought them a small but much needed revenue. Let me tell you, my oyster-headed brother, that for every dollar you got from a student you have lost a hundred in salary. Suppose that five years ago every operator in the land had taken and kept a vow not to teach the art to any one, what would have been the result? When you take into consideration the thousands of miles of wire that have been strung, and the hundreds of offices that have been opened, every one of which requires an operator, and some of them three or four, the sequel is plain. There would have been a demand for operators, and during the past years of business stagnation we could have had fair salaries and plenty of work. The law of supply and demand applies to a trade or profession just as much as it does to an article of merchandise. Instead, then, of your working for \$35 or \$40 a month, some superintendent would have been glad to get you at \$65 or \$70, and this difference in one year's salary would give you more compensation and self-respect than you get out of all the students you ever had. But you say, "If I don't take students the other boys will." Is it any reason, because Jim Jackson got drunk and lost his office, that you should do the same thing? Why not look to our own interests and forswear the student business for ever. We have it in our power to make our profession an honorable one, as well as a means of comfortable support for ourselves and families. Then why, in the name of all that is good, should we sell ourselves for "a mess of pottage." We now have a grand chance to begin a new era. The low rate of compensation has driven a large number of us from the ranks to seek other employment, and during the last two years the mania for "learning to operate" has in a measure died out. This, with the general revival of business, has created a greater demand for operators than we have seen for several years. And now, my brothers, let me entreat of you, for the sake of your families and the families of your brother operators as well as yourselves, not to allow this hydra-headed student to creep into our fold again. It costs money as well as talent to become a physician, lawyer, or preacher, and why should we make operators by the thousand at our own expense. I expressed my views on this subject through THE OPERATOR eight or nine years ago, showing the inevitable result of the wholesale student business, and the past four or five years have fully verified my prophecy, and now once more I pray you to look at this matter carefully, that you be not "penny wise, pound foolish." I never took a student in my life, and so help me God, I never will at any price. Brothers, let us hear from you. Give us a word of cheer, and may the new year of 1880 be the dawn of better days for us. ELLIOTT.

Professor Bell's Telephone.

We have learned with pleasure that Prof. Bell, after long and costly lawsuits which he instituted against several companies in the United States for infringing on his patent rights, has at last been rewarded by obtaining a verdict in his favor, from the United States Superior Court, that his patent rights in that country will in future be protected by the established patent law against infringement, and that no telephone will be permitted to be used unless it bears the name of A. Graham Bell. This decision is of great importance in this country, where many telephones are in use without having the name of A. Graham Bell, and perhaps some of our readers who are using them are not aware that it will not be long before they will be prohibited from doing so. Although it was claimed by the defendants in this great trial that they had obtained patents for improvements on Bell's telephone, these patents do not entitle them to make such instruments unless they have succeeded in entirely dispensing with the use of permanent magnets and vibrating plates, which prove to be the sole and principal parts of Professor Bell's invention, and for which he specially obtained, in almost every country on the globe, exclusive patent rights. It appears from the evidence we have before us, that Professor Graham Bell, after many years of laborious experiments, succeeded in making a most simply constructed instrument, consisting of a permanent

magnet, a small iron plate called a "diaphragm," and an insulated copper wire coil, such as are used for electro-magnets. The coil is placed around the magnet and the diaphragm above the latter, leaving a little space between the magnet and diaphragm so as to allow the diaphragm to vibrate, when the sound is directed toward it. The invention, although of great value and importance, was so simple in its construction that almost anybody could make such an instrument without being an electrician. This, of course, tempted many to make these telephones, and, we need not say, with perfect success, on account of its simplicity; and no sooner was its great value perceived than an immense demand for them was created, which led, as was proven in the late trial, to infringements. As it became known that Professor Bell refused to sell any of his telephones, and only intended to lease them to the public so as to keep full control over them, and in this manner prevent counterfeits from being introduced, several parties, not being thoroughly acquainted with the existing patent law, presumed to make slight alterations in the shape of the telephone, or, instead of using a single permanent magnet, substituted a compound magnet—the latter of which consists of a few magnetized knitting needles fastened together so as to form one magnet—and on account of these alterations on the original patent, they thought they had a claim on Professor Bell's invention, and therefore procured patents for them, which could be easily obtained, of course, on claimed improvements without any guarantee from the Patent Office that such patents stand good unless it is clearly shown that such improvements do not interfere with any part of the original invention. They thought that a patent so obtained entitled them to make these instruments, thereby inflicting great injury on the inventor, and compelling him to seek the protection which he is by law entitled to, which led to a long and tedious trial in the United States, the result of which we announced on Saturday. We are glad to see that an amicable arrangement has been made between the inventor and the different companies in the United States who infringed on his patent, and that they now submit to the law without further trouble, and consent to pay the inventor a royalty for the lease of his instruments. We have been given to understand that, as similar infringements on his rights have been made in this country, Professor Bell has already taken steps to put an end to their continuance, having instructed his legal adviser to notify all those who either make, sell, or use telephones and microphone transmitters without his permission, that, unless they discontinue to do so, legal proceedings will at once be instituted against them. We think Mr. Bell has taken the proper steps in this matter, as an inventor ought to be protected against such piracy. Justice has been rendered him by our worthy neighbors in the United States, although the invention was made in this country, and we are sure that he will receive the same protection in Canada. We are pleased to see by to-day's advertisement that the Dominion Telegraph Co. had been so fortunate in obtaining from Professor Bell the sole agency in this country for the lease of his telephones and microphone transmitters, previous to the favorable decision of the United States Superior Court; and we presume were enabled, on account of the uncertainty as to the result of this trial, to obtain easy terms, so as to be in a position, should the verdict be in favor of Professor Bell, to lease these instruments to the public at a very low annual charge, which is fully shown in their advertisement of Saturday. We congratulate this enterprising company on their success in obtaining sole control of these very desirable and advanced instruments, and for the cheap form in which they offer them to the public, and wish them all the success they deserve in this great undertaking, and hope that the public will not forget that they owe much gratitude to the Dominion Telegraph Company, as this company was the first and the last which gave us low rates for telegraph messages, and they should therefore receive in return the patronage of the public at large, and every encouragement in their present enterprise, which they so justly deserve.—*Quebec Telegraph.*

THE OPERATOR A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY.

W. J. JOHNSTON, Editor and Publisher.

November 15th, 1879.

A SYSTEM of optical telegraphy is to be experimented with in France.

WESTERN UNION stock is quoted at 107, A. & P. at 4½, and American District at 74.

THE advertisement of the messengers' New Year's address will appear in our next.

THE article on "Inside Workings of a Telegraph Office," in another column, is from the pen of an old Pacific Coast operator.

Two balloons connected by telephonic cables made an ascent recently from Paris. The cables had to be cut, however, as the balloons took different courses.

THE royalty from the telephone must amount to a very handsome annual income. There are said to be at least 35,000 in use in this country, and about 500 or 600 in England.

THE telegraphers' New Year's cards for 1880 are much neater and handsomer than were those of last year. They will be ready in about a week, when the orders on hand will be filled. Orders can be sent in at once.

THE Chicago City Council recently unanimously passed an ordinance authorizing the Baltimore & Ohio Railroad Company to erect poles and wires within the city limits. This is a part of the system of the American Union Telegraph Company.

NORVIN GREEN, President, and George B. Prescott, Vice-President, of the Gold and Stock Telegraph Company, were arrested on Wednesday afternoon for contempt of court in the Colgate case. They each gave bail in \$250 to answer the charge.

WE think that the present issue of THE OPERATOR is a very readable number. At the subscription price of one dollar a year, not a single telegrapher in the United States or Canada should be without the paper. We will thank our present readers to draw the attention of non-subscribers to this matter, and endeavor to secure their subscriptions for us. Specimen copies, for getting up clubs, mailed free. For premiums see advertisement on page 14.

THE compact between the telephone companies, though only signed November 10th, takes effect November 1st. The gist of the agreement is that the Bell Company has the exclusive right to make and lease telephones, paying the Western Union a royalty on each instrument used. Where there are rival exchanges in the same city, the interests are to be harmonized as speedily as possible. In the meantime, however, the Gold & Stock is to supply instruments, etc., needed by such of its exchanges as may be in these cities. The royalty to be paid has not been made public. Rumor says it is a dollar on each instrument.

The Teaching of Students.

A correspondent in this issue draws attention to the evil effects that have resulted from the wholesale teaching of students, and asks operators not to contribute further to the over-supply of that kind of talent, and the consequent cutting down of their own salaries, by taking more learners. This is a matter of great importance, and one that deserves more thought and attention than it at present receives.

There never has been, is not now, and doubtless never will be, a surplus of strictly first-class operators. If, however, there are half a dozen applicants for every vacancy that occurs, the natural effect is to reduce the salary of the one who finally obtains the position. True, four out of the six may be wholly incompetent to fill the position, but that matters little; competition for the place is great, and the man who gets it cannot afford to stand out for a large salary.

Per contra we have at present in the larger cities a competition between the telegraph companies as to who shall secure the services of certain men, known to be first-class operators. The American Union offers a position at, say, eighty dollars a month to a man whose salary, owing to sliding scales and gradations, is perhaps sixty-five or seventy. The Western Union, although his services are no more valuable now than they were before, promises him eighty-five to remain, and the American Union, rather than lose him, gives him ninety. Were the supply larger of men as proficient as he is, there would be none of this competition, and his salary would be considerably less. It is a mere question of supply and demand.

Of the lower grades of operators, students, and plugs, however, the supply is so large that if every position they are capable of filling in all the telegraph offices in the country were vacated in their favor to-morrow, probably not one half of them would find employment. Only those who are conversant with the actual state of affairs would believe the enormous number of "operators" there are scattered broadcast over the country.

An advertisement of the Atlantic & Pacific Telegraph Company in this paper, some time ago, for a few operators, called forth such an inundation of applications that at least fifty men could have been secured for every one that was wanted; and the Superintendent of the American Union remarked yesterday that he had already received a larger number of applications than he had any idea there were operators in the entire country.

Thus, while first-class men are in active demand at good salaries, not more than a small proportion of third and fourth-rate operators can find employment at all, and only then at starvation wages. This is the present condition of the telegraphic labor market, and so it will continue to be just as long as operators persist in the practice, which has unfortunately become so general, of teaching so many students.

Surely the experiences of the past have conclusively demonstrated that—taking a money view of the matter—teaching students does not pay in the long run. Although an occasional extra fifteen or twenty dollars may be gained—while the instruction is often given for the gratification of having a boy to run errands—when the student takes the office of his tutor at a smaller salary, or the latter's compensation is reduced in consequence of the overcrowded state of the labor market, a condition which he has aided in bringing

about, where does the profit come in? Operators will do well to give these matters their thoughtful attention. There is no room at present in the telegraph service for new recruits, nor will there probably be for years; and the sooner a stop is put to turning out embryo plugs, the better for all concerned.

The Tasimeter and the Electric Light at Sea.

Professor Proctor paid a handsome tribute to Mr. Edison during his lecture in this city on Monday evening. During the exhibition of a picture representing the brilliant phenomenon of the solar halo, frequently witnessed in the Arctic regions, Professor Proctor said that the icebergs that towered in the background reminded him of the strange accident that befell the *Arizona* on Friday night in mid-ocean. His mind, he said, had been filled all day with that accident, and he could not help reflecting that it is the duty of science to prevent such catastrophes as this. The lecturer's reference to "your great inventor, Edison," was greeted with applause, and when he suggested that the wonderful tasimeter, which detects the slightest change of temperature, and the piercing electric light, placed on the bows of a steamer, might make her path free from such dangers, the applause was redoubled.

Mr. Edison subsequently referring to the tasimeter, said that it can be made so sensitive that it will detect and show the minutest variation in the temperature of the water. But for practical purposes on ships at sea such delicacy is not needed. It can be adjusted to meet the proper requirements.

The application is very simple. The tasimeter itself is a small instrument placed in a little case about a foot long, and attached to the vessel so as to be under water all the time. It is then connected by wire with a couple of cells of battery and a galvanometer. The galvanometer can be in the wheel house, the captain's cabin, or anywhere else desired. At every change of the temperature the needle of the galvanometer deflects. The colder the water becomes, the more deflection there will be. As a further precaution, at a certain temperature, which can be arranged to suit, the needle will cause a little bell to ring to warn the captain that danger is near at hand.

The construction of the tasimeter, as explained by the inventor, is briefly this: A thin strip of zinc is placed horizontally in a clamp at one end, with its other end pressing lightly on a small carbon button. As heat expands and cold contracts the metal, there will be more or less pressure upon the carbon button, according as the temperature is hot or cold. Now, the property of the carbon button is such that when a current of electricity is passed through it the slightest change in the degree of pressure upon the carbon will vary the resistance which it offers to the passage of the electric current, so that the effect produced on the galvanometer in the captain's cabin (which is connected with the tasimeter by wire, as before stated) will be commensurate with the degree of pressure produced on the carbon by the strip of metal.

Any breaking of the wires or derangement of the apparatus, from whatever cause, would instantly be shown by the galvanometer needle falling back to zero.

Mr. Edison is very emphatic in his opinion that the tasimeter would be infallible in foretelling

the approach of icebergs. He also says that a powerful electric light, its rays concentrated, would light up the sea far ahead in the darkest night or densest fog, and show the approach of any danger.

Colonel H. B. Crosby, president of the Fuller Electrical Company, says that an electric light at sea would be the means of preventing many collisions; and in transatlantic voyages, in his opinion, it is almost criminal negligence not to take such precaution. One light can be made a protection from dangers on all sides, by being upon a pivot; then it can be made to sweep the horizon. The narrow escape of the Arizona has stirred up the steamship people, and there is reason to believe that some of them, at least, will in future employ electric lights and other late products of science for the safety of their passengers.

More Cutting of Poles.

The American Union's Philadelphia line is at last completed, and in good working order. This is the line in the building of which so much opposition has been experienced. It does not appear, indeed, that the impediments thrown in the way of the company in the erection of the line, have all entirely ceased. Nine poles on this line were recently cut down near Linden, and twelve in Houtenville, N. J. In the latter instance the perpetrator was arrested, and confessed the crime, stating that he had been hired to cut down the poles. He was granted a hearing on Wednesday, but waived examination, and was admitted to bail to appear before the grand jury. It is to be hoped that the person who instigated the dastardly outrage, whoever he may be, and whatever position he may hold, will be found, and receive the punishment he deserves. The new company has a standing offer of a reward of two thousand dollars for information that will lead to the conviction of any person or persons found guilty of interfering in this manner with the building of its lines.

The *Elizabeth Journal*, referring to the cutting of the poles, says: "On Monday last, while honest people were attending to their legitimate business, some men, who were hired for the purpose, sawed down and carted away eleven of the American Union Telegraph Company's poles at Houtenville, about one and a half miles south of Rahway.

"The agent of the company at once commenced an investigation to discover the cowardly perpetrators, but not a pole nor a piece of wire was to be found in that neighborhood, nor yet was there a track or trace of where a pole was dragged or drawn away. The work had been well done, evidently by experts. After a considerable search, Mr. Plumb, the agent, found a man who had noticed a wagon going from the vicinity where the poles were cut down, 'loaded with posts, or some such things,' he said. A search warrant was procured on Wednesday, and Mr. Plumb and the officers proceeded with it to a barn leased by a man named Gibson. Under the barn were found the poles nicely piled up, and a quantity of the wire that had been stripped from them. The wire was done up in two compact coils, expertly wound and fastened in precisely the manner that is employed by telegraph men with tools in their possession, and was stowed away in different places on the same farm. Gibson was at once arrested, taken before Justice Wood, of Metuchen, in Mid-

dlesex County, and held in \$500 bail to answer the charge. On Wednesday next he will have a hearing. Gibson admits that he was hired to do the dastardly work, but as yet has refused to disclose the name of the principals.

"Not satisfied with this outrage, the same parties last night procured the cutting down of nine poles on the line between this city and Linden. An investigation of this second outrage has developed facts showing that the work was done by the same parties, who are evidently in the business. The two sections thus destroyed will not greatly injure the company, as one is wholly replaced, and the other is being replaced to-day by the company's men. Every clue that may by any probability lead to the 'discovery' of the perpetrators, is being followed, and a thorough and searching investigation is being made, and the most summary prosecution and punishment will be meted out to all persons, high or low, who are convicted of being concerned in the matter."

Presentation to Mr. Henry W. Pope.

The employes of the American District Telegraph Company of this city, presented their retiring General Superintendent, Mr. H. W. Pope, with a handsome and valuable service of silver, on Saturday evening, November 1st. The service was engraved with the words: "Presented to Henry W. Pope, Esq., by the employes of the American District Telegraph Company, as a mark of their respect and esteem." A pair of gold and silver napkin rings, from the messengers of District 31, were also presented. After the presentation a sumptuous supper was partaken of by a large number of American District employes and invited guests, and an exceedingly pleasant evening spent.

Mr. Pope commenced his telegraphic career while at school in Great Barrington, Mass., in the year 1861, being then thirteen years old. His stay at Barrington was prematurely brought to a close on account of a boyish freak—annexing the words "D. H. Charity" to one of the free messages of David Leavitt, a local railroad magnate. This, of course, aroused the wrath of Mr. Leavitt, and the affair terminated in the transfer of Mr. Pope to the New York main office. There were not at that time so many boy operators as the present progressive age has developed, and it was customary to point Mr. Pope out to visitors as the youngest sound operator in the business. When sitting at an operating table his feet did not touch the floor, and his head was hardly ever seen above the front of the table.

At the time that Mr. Pope received the appointment of Assistant Superintendent of the American District Telegraph Company, January 13, 1873, that company was struggling for existence. It had but four offices, a few hundred subscribers, and a very small complement of boys. The company had, however, decided to extend its business. To Mr. Pope was committed the immediate supervision of the construction, and offices were rapidly opened, and business amplified. In the autumn of 1874, the resignations of W. H. Sawyer and G. F. Durand, both of whom held superior positions, left Mr. Pope the senior officer of the operating department of the company, and he was called upon to take the reins, and proceed with the control of the business. Like David Copperfield, however, Mr. Pope was "so

very young," his youth acted as a drawback to his appointment, which, notwithstanding, after considerable objection and controversy, he obtained, more to the advantage of the company than to himself for several years. The first year of his superintendency found the company deeply in debt. To make matters worse, the violent snow and sleet storm of that year, which will be long remembered by all constructive telegraphers, completely prostrated the wires, leaving only three lines working in the entire city. By prompt and decisive action a large construction force was organized, and at twelve, noon, Christmas Day, two weeks after the storm, every wire was once more in operation—weeks, and in some cases months, in advance of other telegraph corporations. As a natural consequence, this storm and its results largely increased the indebtedness of the company, inasmuch as the system had to be almost entirely rebuilt. Soon after this period the business increased, and the expenses, by the judicious management of Superintendent Pope were gradually and steadily reduced, abuses were checked, and, notwithstanding the depression in business, extending over several years, the company prospered, until at the present time it has a large system, comprising twenty-four offices, 5,000 instruments, 31 patrolmen, and 750 boys. The business of the fiscal year of 1879 shows that 1,858,254 messages were carried, and 7,624,031 circulars delivered, while the total earnings of the messenger force was \$252,514.15, an increase over the previous year of \$51,336.65. The success of the company, in a large measure, is certainly due to the executive talents and organizing ability exhibited by Mr. Pope.

The New French Cable.

A dispatch from Halifax, N. S., says that the cable steamer *Faraday*, arrived there November 4th. The new French cable has been successfully laid between Brest and St. Pierre, and the *Faraday* is now engaged in laying a cable between the latter place and Cape Cod. The *Faraday* was caught in a severe storm, but kept steadily at work. Little can yet be learned in reference to the new cable company. It is understood, however, that the French company will never consent to be amalgamated with the English, and as it will be worked in connection with the lines of the American Union, there is thus the basis of a very formidable opposition, and the existing monopoly hope to destroy it by adopting for a time an almost nominal rate. This device, it is said, will not answer. The French company is rich and is prepared to face a war-to-the-knife policy. From the first day it was started the projectors knew that it would have to encounter tremendous opposition. Baron von Chauvin, who was instrumental in its formation, has had some experience of such fights, and certainly cannot be very much taken aback at the announcement of a twelve-cent rate. The French company has a large amount of capital at its back, and can get more. The English shares have been very much depressed during the week, for ordinary investors do not see the fun of this war of rates. Moreover, they have heard that Mr. Gould is somehow or other connected with the French scheme, and his name is getting to be a power to conjure with even on the London Stock Exchange.

Song of the Magnet.

I sit at my desk from day to day,
Listening to what the wires say.
I hear the messages speed along
In that untiring electric song:
Click, clickety-clickety, click.
How strange what that little "click, click" means.
To the unacquainted ear it seems
Failing in all attempts to unfold
The simple story which must be told,
Click, clickety-clickety, click.

I love to hear that magnetic sound,
So much of the world in it is found—
In one bright moment fortunes are made,
And in another are doomed to fade.
Click, click-ick, click-ik-ity, click.
When markets go up, the wires speak forth,
Telling the world what produce is worth,
Spreading the news as it goes along,
In that same little magnetic song:
Click, click-ick, click-ik-ity, click.

Only a moment to rush through with
A message addressed to "Smith & Smith:"
"Don't sell your wheat; Chicago is down,"
From Boston, signed by Howland & Brown.
Click ick, click-ick, click-ity, click.
In one moment, by touching the key,
These words are flashed to Mr. Magee;
"I will be there on the morning train,"
Signed by "His Honor Josiah Payne."
Click-ick, click-ick, click-ity, click.

Sad tales of sorrow the wires can tell,
Spreading the news when nations rebel,
And, as they connect with every land,
They make each nation go hand-in-hand.
Click-ick, click, click-ik-ity, click.
So this is the life we lead each day,
Listening to what the world has to say.
As each weary day of time rolls on,
We hear nought but that electric song:
Click-ick, click, click-ik-ity, click.

By that ingenious magnetic song,
We are made acquainted with Hong-Kong;
In the distant isles of ocean's breast,
Even there that song is not at rest.

Click-ick, click, click, click-ity, click.
Oh, magnet! sing thy song to the world,
And let thy mighty strength be unfurled;
Till old Father Time shall rest in peace
That electric song shall never cease.

Click-ick, click, click, click-ity, click.
ST. MARYS, ONT., OCT. 28, 1879. NORMAN LA MARSH.

Telegraphic Matters at the Hub.

Mr. E. F. Leighton, a well known Boston telegrapher, who last year was elected, and creditably served in the Massachusetts State Legislature, as representative to General Court, entered the contest in the recent election as candidate for senator representing the Fourth Suffolk District, one step higher in the management of the "ship of state." Although not elected, Mr. Leighton polled a very large vote, notwithstanding the great odds he had to contend against. The personal popularity and respect which he commands among citizens of the district is unquestionably attested by the result, which was very flattering. The opposing and successful candidate, who is a prominent lawyer controlling considerable political influence and an ample amount of "lucre"—the essential of essentials in political warfare—claimed the "victor's spoil" by a small plurality. In his disappointment Mr. Leighton has the sympathy of his co-laborers, who all wish him success in future political aspirations.

Business in telegraphic circles in this vicinity is already assuming a lively aspect, the American Union Company having recently entered the city. Fixtures, constructed of the best material obtainable and conspicuous for their height, being seven feet above all others, on which nine wires have been strung to within a short distance of the supposed main office, were rapidly and secretly erected, without the least opposition on the part of rivals. Six Boston operators have been secured, each of whom is considered to be among the most expert in the country, and as many more of the lesser light as are necessary may be easily obtained. The location of the main office, considered to be the best in the city for telegraphic business, was obtained with great difficulty and at an enormous rent. December 1 is supposed to be the natal day of the company in this city. A "glorious future" is looked for by the "local talent," and the voice of the "graded" is heard in the land.

The Boston press, in meritorious terms, have been heralding the invincible monarch. The *Traveler*, under date of 7th instant, editorially says:

"Competition in all things is generally beneficial to the general public, and nowhere is this displayed more conspicuously than among the telegraph companies. At the advent of every new company in the field, rates have been reduced until, worn out by an uphill fight against heavy capital, the newcomers have been compelled to abandon the business or be absorbed by a monopoly, and the old rates are resumed. For years this starving-out policy has prevailed, and it therefore becomes pleasant to chronicle the progress of a line with sufficient capital and enterprise to claim its share of the public business, and spunk enough to hold on until that share has been obtained.

"The American Union Company not only talk, but their acts show that they mean business. Among its corporators are Messrs. Jay Gould, Fred. L. and Oliver Ames, Russell Sage, of New York, Hon. John B. Alley, and other solid men, and its work is being pushed forward with vigor. The interests of some of the largest and most wealthy trunk railroad lines are identical with those of the American Union Company, and they co-operate in all endeavors to make a success of the new line.

"Since the commencement of active operations eight hundred thousand dollars has been expended in construction, etc., and more than six thousand miles of wire have been stretched. One-third of the capital stock of the Dominion Co. of Canada has been purchased, and the wires of that company, extending over about nine thousand miles, have been leased for ninety-nine years. An exclusive arrangement has been made with the new French cable, whereby foreign connections are obtained. Some of the most expert operators and the best electric apparatus have been secured, and a good deal of money has been expended in the selection and furnishing of commodious offices, neatly furnished and equipped.

"The force of men now at work aggregates 1,200, and things are being rapidly pushed forward. Already the company has in readiness four wires on poles from the Dorchester Street bridge, South Boston, to New York, and the poles, cross-arms, etc., are all ready for the extension to the city proper. Only two long poles are being waited for, and when they arrive, the work will be completed. The company will then have four complete wires between Boston and New York via Providence; four between New York and Washington; five between New York and Albany; two between Albany, Buffalo and Montreal; two between Buffalo and Pittsburgh; two between Detroit, Toledo and Cleveland; two between Toledo, Fort Wayne and Logansport; two between Toledo and Cincinnati, St. Louis and Decatur, Chicago and Decatur, St. Louis and Kansas City,—besides many other connections. Connection with Montreal from Boston can be had either by way of New York or by a line which is being built via Rutland and the Hoosac Valley. The lines are being constructed in a most substantial manner, and everything seems to indicate that the new company has come to stay. Extension to the east is said to be talked of, and it is possible that work in that direction will commence very soon."

The Western Union Company, with its three A. and P. branches, has for the last two months been doing a business unprecedented in the electrical career of the most primitive "old timer." Many of the day men have been ordered and detained on duty far into the "wee sma' hours," and even our fraternal sisters have done an occasional hour's night work.

Some fiend incarnate surreptitiously entered the coat room in the main office a few nights since, and purloined three valuable overcoats, belonging to as many members of the night force, who have since lugubriously sworn to the following effusion:

Who steals my purse steals trash; 'tis something (but generally contains) nothing;
But he that filches from me my good overcoat,
Robs me of that which bankrupt credit cannot buy;
And (unless I can bulldoze some credulous tailor)
Makes me feel the cold indeed.

The punishment of Tantalus would be a mild comparison, to the one to be imposed by the wrathful key agitators on the culprit, if caught.

The managers of the Direct U. S. Cable Company, anticipating the contest for supremacy to be inaugurated on the advent of the new French Cable Company, which is expected here soon, have transferred their business from the Equitable Building, to an office on State Street, which has been elegantly fitted up, the force increased and active preparations commenced to "carry the war into the enemy's camp."

The American Rapid Company are at present located on Devonshire St., where a number of young gentlemen and ladies are being instructed in the *modus operandi* of this mysterious mystery. Practical telegraphers of this city place very little confidence in the proposed "revolution" to follow the completion of this line. QUI VIVE.

Lightning Rods.

In 1878 the Royal Institute of British Architects, the Society of Telegraph Engineers, the Physical Society, and the Meteorological Society, nominated delegates "To consider the possibility of formulating the existing knowledge on the subject of the protection of property from damage by electricity, and the advisability of preparing and issuing a general code of rules for the erection of lightning conductors." The delegates have held several meetings, and have already collected a large amount of thoroughly practical information. The members of the Conference are anxious that their report shall be as trustworthy and as exhaustive as possible, and invite correspondence on the following points:

"Full details of accidents by lightning, stating especially whether the building struck had a conductor or not. If there was a conductor, state its dimensions; construction, mode of attachment to building; whether its top was pointed; distance of its upper terminal from the place struck; nature and extent of the connection between the conductor and the earth, and whether the earth was dry or moist; whether the conductor was itself injured; and whether the conductor or the point struck was the most salient object in the vicinity. Information is also desired, either verbally or by sketches, as to the position of metal spouting and lead roofing relatively to the point struck, and to the conductor. Details of the thickest piece of metal melted by a flash of lightning are much needed. Unimpeachable evidence of the failure of conductors is much desired, as such failures would be extremely instructive."

The address is, "Lightning Rod Conference, 30 Great George Street, S. W., London, England."

The Washington "Capital" and the Associated Press.

The *Sunday Capital* of this city published, in its issue of November 2d, an article headed "Telegraphing," in which it advocated the establishment of a postal telegraph system similar to those now in operation in most of the countries of Europe. The gist of the article will be found in the following paragraphs:

"The telegraph is the poor man's post-office. Made up of a pole, a wire, and a boy, it is far cheaper than the cumbersome machinery of a department that has, to carry it on, an army of agents, locomotives, stage coaches, and costly buildings. To give this over to a monopoly, that it may be enjoyed as a luxury by the rich, is an outrage that none but a practical people, such as cover this continent, would submit to longer than it could be remedied. The effort made by the late Congress to break the monopoly illustrates the difficulty attending any return to just dealing. A law was passed authorizing the railroad companies to erect lines and operate them for the benefit of the public, in the hope that one monopoly might counteract another, and so destroy a public abuse. The project was sprung so sud-

denly that the Western Union was unprepared; and yet the bill was passed only after a desperate contest, in which the agent of the Western Union appeared openly upon the floor, distributing free passes right and left to members of Congress and representatives of the press. Nothing but the fact of the Western Union, with its fungus growth of an Associated Press Company, belonging openly to the Republican party, made the act a law.

"The cool assurance of these monopolists was shown in asserting that both organizations were private enterprises, and could not, therefore, be interfered with by the law-making power. Yet, since the passage of the act they have appealed to the courts, on the ground that their exclusive privilege is a franchise granted them by the very power whose control or interference they so vehemently protested. The great victory achieved by Congress, in the passage of the act referred to, was in establishing the principle that Government has the same control over the telegraph that it has over mail matter, and the next move is to have the telegraph made part of the Post Office Department, in spite of the cries from the beasts of prey that are fattening on a monopoly."

In its following issue, that of November 9th, the *Capital* contains this item:

"Our journal has been founded upon the ever-successful ground-work of fair play and decent dealing. That principle has made us the factor of steady and persistent antagonism to monopolies, who would Russianize America if they could, and, in their blind folly, born of brief authority, issue their ukase at their will and own sour pleasure. The Associated Press has this week attempted this jumping-jack business, and informs us that it has doubled the rates of telegraphic news and information. This, without doubt, is due to a petty

spite and monarchical anger, caused by our free-speaking of the monopoly of the telegraph. They may double with more acuteness than a fox for all that we care. Their attempt at extortion is lost upon us. We drop them, and dismiss them. Other arrangements have been made, and we promise our readers the fullest and latest national and international telegraphic news. Newspapers do not live by the consent of one monopoly or another; they live by the co-action of the people, who believe in independence and rebuke coercion, whether it comes from a titled dynasty or a vulgar monopoly, that is worse and more grinding than an inherited royalty."

The *Capital* has a large circulation, and an editor with a good supply of nerve. If he carries this subject this winter, and it is taken up by the *Graphic* and a few more friends of the Associated Press, there is no doubt but that Congress will be compelled to notice it. But there are no Sumners nor Washburns to advocate the subject, and its future cannot be guessed at. If, however, a fair committee on Post Offices and Post Roads were appointed, I think Congress would turn out a bill that would meet the wants of the press and public. The proposition of Hon. C. C. Washburn, of Wisconsin, in his speech favoring postal telegraphy, submitted a very just plan to the Committee on Post Offices and Post Roads. In his speech, Dec. 22, 1869, he gave data from the experience of other countries to show the benefits to be derived from it. The telegraphers at one time thought that this scheme would injure them; they have now come to the conclusion that nothing short of machine telegraphing can affect them. The grievances to the public are many, and have been frequently cited. Some testimony, taken by a committee appointed by the British Parliament, just before the adoption of Govern-

ment telegraphy in that country, brings to mind the facts in the case of the *Capital*. The Belfast *Whig* advocated postal telegraphy and cheap rates. The proprietor of this paper, in his testimony before the committee, submitted the following letter, addressed to him by the Superintendent of the Telegraph: "The time appears to have arrived when the directors should seriously consider whether the contract with your journal should be continued, and I have no doubt they will come to a decision which may afford you an opportunity of making your own news arrangements on less exorbitant terms." The committee, in examining this gentleman, say (Parliamentary Reports, question 1462): "And so the company had the power, if they wished it, of saying that you should not receive telegraphic news unless you took a particular line in your paper on particular questions? Ans. Yes, sir; of controlling my action in the management of my newspaper. Q. Is that a condition of things which could be tolerated by the editor of any newspaper? Ans. It is a condition of things that I should not tolerate, at any rate, and, I think, intolerable to any man of independence."

The freedom of the press of this country is at the mercy of the Western Union Company. The organ of the Western Union Associated Press says to the members of the association: "Your attention is invited to the clause in our contract with the telegraph company which forbids us to encourage or support any opposition or competing telegraph company. That clause was to the telegraph company a valuable consideration for the favorable terms upon which they contract with us."

"They say to the Washington Sunday *Capital* for this offence: 'We will double the price of news to your paper.'" AN OBSERVER.

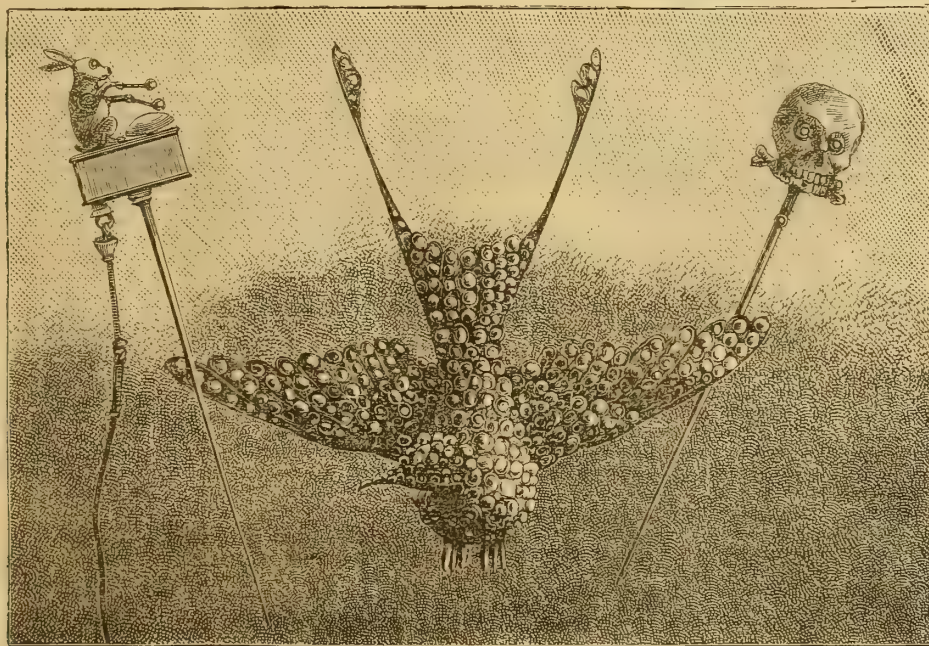


Fig. 1.—FRENCH ELECTRIC JEWELRY.

The Latest French Electrical Novelties.

M. Trouvé, the French electrician, has recently devised a number of curious little articles of jewelry, to which the wearer is enabled to communicate certain motions by means of electricity. The scarf pin, represented at the left of figure 1, consists of a small golden rabbit holding a lilliputian mallet in each paw, with which it beats a roll on a small golden gong. The right-hand figure represents a golden skull, with movable diamond eyes and an articulated jaw. This is also a scarf pin, and its eyes and jaws are made to move in a

singular manner. The bird shown in the center of the engraving is an ornament for a lady's head-dress. It is of gold, thickly studded with diamonds.

The trinkets are connected by a fine concealed wire, with a small battery carried in the vest pocket. When a person looks at the pin or the ornament, the owner, slipping a finger into his pocket, moves the battery, whereupon the rabbit strikes the gong, the bird moves its wings, or the skull rolls its eyes and grinds its teeth.

The battery consists of a zinc and carbon couple contained in a hermetically closed vulcan-

ite case, the zinc and carbon occupying the upper half of, and the exciting fluid the lower half of, the case. When the case is in a vertical position the exciting fluid does not touch the zinc or carbon, but when it is inverted or placed horizontally, the fluid comes into contact with the zinc and carbon, and the current traverses the coils of the diminutive magnets which operate the mechanism of the pieces. The arrangement of the internal parts of both battery and scarf pin will be understood by reference to Fig. 2. The mechanism is much like that of an ordinary vibratory electrical bell.

FIG. 2.



The New York W. U. Athletic Games. FALL MEETING.

The fall meeting of the Western Union Athletic Club took place at the Manhattan Club Grounds on Friday, Nov. 7, and was a marked success. A large number of ladies, friends of the contestants, was present. The records made were up to the standard of regularly organized clubs, and, compared with those made at some meetings on the following day, were higher. The first event was a 100 yard dash, handicap, in heats. The first heat was won by F. E. Wilcox in 11 seconds, A. J. Voyer, second. The second heat was won by Hugo Wiese in 11½ seconds, J. W. McLaren second. In the final heat Wiese, with three yards start, won in 10½ seconds, Voyer second. The mile walk, handicap, was won by S. C. Austin, in 8:30½. D. C. Donohue, whose actual time was 7:57½, second. The half mile run for messengers in uniform was won by E. Peppard of Brooklyn in 2:37½, one yard ahead of E. Swart. The regular half mile run was won easily by William B. Waycott in 2:24½. Hugo Wiese, second. The three mile walk, handicap, was won by S. C. Austin, in 26:53½, the winner had 1:40 start of D. C. Donohue; the latter walked the distance in 25:43, and was awarded second place. The 220 yard run, which was the closest and best contested race of the day, was won by Hugo Wiese in 27½ seconds, F. E. Wilcox, second. D. B. Mitchell and C. M. Jansen won the three-legged 100 yard race. T. Marrin, Wm. Maver, Jr., Martin Durivan (last spring's champion), J. McKinniry and P. J. Lawlor started in the five mile go-as-you-please race. Marrin went to the front during the first lap, and was never headed. He ran the entire distance in the excellent time of 30:41, Maver second, in 31:33. These records, creditable as they are, would have been better had the contestants had more time for practice, but owing to the great increase of business in the office, athletic matters have necessarily been neglected. A larger meeting will be held next spring, which will be open to the fraternity at large, and entries from other cities will be gladly received.

DETAILED information as to the practical inside workings of the telephone exchange system will be found in an article from the Cincinnati *Enquirer* copied in this issue. This cannot fail to be of interest to telegraphers. The new Jones telephone exchange switch-board, manufactured by C. E. Jones & Bro., of Cincinnati, and advertised in another column, is also incidentally explained. The Messrs. Jones have issued a neat eight-page circular, giving full particulars of the switch-board. The circular will be mailed free to any address on application.

An advertisement in the Montreal *Gazette*, of November 12, gives notice that application will be made to the Parliament of Canada, at its next session, for an Act to incorporate "The New Telegraphic Union" and to confer upon said company, so created and incorporated, corporate rights, with power to build lines and to carry on the business of telegraphing in Canada and elsewhere, at the specified rate of one cent per word; and further, to confer upon said company power to amalgamate with any other company or companies, if thought necessary or desirable, provided the tariff or rate be not increased.

Among the operators on the N. Y. Third Av. "L" Railway are many old time railroad and commercial telegraphers. Messrs. Palmer and Burns are at South Ferry; Mr. Tillebridge at Hanover Square; Mr. Van Nortwick at Fulton Street; Mr. Smith at Franklin Square; Mr. Dumont at Canal Street; Mr. Hassard at Grand Street; Mr. Hill at Houston Street; Mr. Fitzgerald at Ninth Street; Mr. Kitchum at Fourteenth Street; Mr. Pender at Eighteenth Street; Mr. Crowell at Twenty-eighth Street; Mr. Nevins at Thirty-fourth Street; Mr. Hill at Forty-second Street; Mr. June at Grand Central Depot; Mr. Hoff at Forty-seventh Street; Mr. Schofield at Fifty-third Street; Mr. Haines at Fifty-ninth Street; Mr. Moyer at Sixty-seventh Street; Mr. Ulrich at Seventy-sixth Street; Mr. Jarrett at Eighty-fourth Street; and Mr. Krepps at

One Hundred and Twenty-fifth Street. These comprise the night force. Mr. O'Connor is night operator at the dispatcher's office. Mr. Hunkinson, who succeeds Mr. Dennison as chief operator, is making many friends along the line.

PERSONALS.

Mr. and Mrs. L. G. Tillotson have returned from Europe.

Mr. R. G. Sharpe has accepted a position as operator in the W. U. main office, in Cleveland, Ohio.

Benton E. Weaver, formerly of Ogdensburg, N. Y., is now agent and manager of the Empire Tel. Co., at Warren, Pa.

Mr. A. B. Cornell, an old time operator, and at present one of the directors of the Western Union, has been elected Governor of New York State.

Walter Ogden, formerly operator at Alpha station, on the C. B. & Q. R'y, has resigned, and accepted a situation as extra operator on the K. C. St. Joe & C. B. R'y.

C. F. Patterson has been added to the W. U. force at Kansas City, Mo.—McReynolds extra. F. J. Buckley has accepted a situation in Milwaukee.

Mr. Mulcahy, Superintendent Telegraph C. W. and M. R. R., is trying to get the superintendents of telegraph together, to adopt some plan to get rid of students.

The office in the Neptune Hotel, Rockaway Beach, having closed for the season, Mr. W. F. Coleman, formerly of the Erie Railway, has been permanently located as agent of the L. I. R. R., at Far Rockaway.

Chas. E. Schuyler, a Buffalo telegrapher, who some time ago abducted a young lady with the object of extorting money from her father, pleaded guilty to the charge, and was sentenced to Auburn prison for seven years.

Mr. Wyman B. Jenkins, who has been telegraph operator and train dispatcher on the Eastern railroad for several years, and stationed at the depot in Portsmouth, has been transferred to the chief train dispatcher's office in Boston.

Mr. T. Edison, a nephew of the inventor, recently died in Paris of consumption. He had gone to Europe as his uncle's representative, to take the place of Mr. Adams, who, it will be remembered, also died a short time ago. The deceased was only twenty-four years of age.

An operator named Clarence Darwin recently died of yellow fever at Lafourche, La. He is supposed to be from Indiana, and formerly worked on the A. & P. Co.'s lines at Dry Grove. Any person knowing the address of his relatives is requested to communicate with the Western Union manager at Lafourche.

THE portion of the South African cable between Durban (Natal) and Zanzibar a distance of about 2,000 miles, has been completed. About 1,800 miles has yet to be laid to connect with the Eastern Telegraph Company's system at Aden. It is expected that this will be completed early in December.

MILWAUKEE.—Miss Klumb, formerly manager of the Oconomowoc office, and W. M. Wright, of Chicago, are now working here. H. P. Nelson, formerly of the W. U., is taking night report for the A. & P., vice Gardner resigned. George F. King, who has been working for the W. U., is now with the N. W. Messrs. Buckley, from Kansas, and Grange, of Milwaukee, take their places.

MEEHAN'S ATTAKAPAS Telegraph Line, is owned and controlled by John H. Meehan, who is also manager of W. U. Co., at New Iberia, La. The line is sixty miles in length, running from New Iberia to Washington, taking in the following towns: St. Martinsville, with Clem Germain in charge of office; Breau Bridge, Al De L. Power still holding his own; Vermillionville, with Jimmy Rogan in charge; Grand Coteau, M. Dunbar, manager; Opelousas, with our good old friend Will. A. Rogan; Bud Hunter, old 76, is still at Washington; John Roveria, who has so long been assisting in main office, at New Iberia, has resigned to accept a better position in T. D. office, Morgan, R. R., N. Elsworth, formerly of the night force, Jackson, R. R., comes to relieve him. Rox.

Mr. Samuel Van Nortwick, for the past seven years operator and electrician Eastern Division N. Y. L. E. & W. R. R. (Eric), at Jersey City, N. J., "Hu" office, has resigned to accept a position as manager of the Bell Telephone Co.'s office, Jersey City. Mr. George Holbrook, formerly night operator same office, takes Mr. Van Nortwick's place. Mr. Ed. G. Sipple has been appointed night operator.

Mr. Willis J. Cook, the original of "John Oakum's" sketch entitled "Statistics," after a brief season of rest and recuperation at his home in Sandusky, Ohio, has turned up in Washington as bright as a daisy, where he succeeds Charlie Cottrell on the Associated Press wire, the latter having embarked in other business in Philadelphia, with flattering prospects. It may be comforting to his numerous friends to know that "Bif," who was threatened with telegraphers' paralysis when he left New York some years ago, fully recovered his "grip" out in Mormondom. He now sends as beautifully as ever, and is exceedingly popular with Mr. Phillips' men—the best judges of fine sending, perhaps, in this country, inasmuch as they manage, among them, to do about twice as much of it as is accomplished on any other circuit in America.

BOSTON.—The American Union Company expect to open for business here within a month. The Boston Telephone Dispatch Co.—a local organization practically owned by the National Bell Telephone Company—has over 600 subscribers, and answers from 3,500 to 4,000 calls per day. It has branch offices at South Boston, East Cambridge, Cambridge, Boston Highlands, Commonwealth Hotel, Berkeley St., Charles St., and Yonges Hotel, and is daily progressing in the good graces of the public. The Rapid Telegraph Company is still instructing gentlemen and ladies in the mysteries of perforation, as a preparatory process for rapid transmission. Martin Wessman, lately manufacturer of the celebrated snapper sounder, has recently been appointed inspector of the Gold and Stock Company's Boston instruments. Notwithstanding the exalted nature of the appointment, he has not as yet assumed a stove-pipe hat, but still adorns his cap with the huge Texan sombrero, without which he has never been seen in the memory of man. NEMO.

GRAND RAPIDS, MICH.—The great increase of commercial business with the G. R. & I. R. R. Telegraph Company demands another wire north from Grand Rapids, which is now in course of construction, and will soon be completed to Cadillac. M. F. Quaintance, agt. and operator G. R. & I. R. R. at Petaskey, has just returned from an extensive tour through Colorado and the West, visiting the "old folks at home." Charlie E. Russell, formerly in the A. & P. office, is now working the loop lately run into the offices of O. E. Brown, commission grain merchant. Will Jennings fills the vacancy caused by the transfer of Mr. Russell. Johnny McQueeney, for a long time operator in G. R. & I. office at Klamazoo, is now rusticated for the winter at Columbus, Texas, on the G. H. & S. A. R. R., and is the guest of Ed. Chenery, night dispatcher, formerly night operator at Klamazoo. No changes with W. U. Co.; business good. W. W. Wheatley, of Kentucky, is now with the C. & N. W. R. R., at Marshall, Minn. Walter is a first-class man, and has the nerve to hold his own. His friends wish him a pleasant home in the West.

OGDEN, UTAH.—Among the latest arrivals here are Messrs. R. A. Empey and E. C. Keeler, of New York, and Mr. Morris, of Denver. The latter brought his wife and family, as did also Mr. Keeler. Among the operators in this office are: George Merryfield, of N. Y.; M. J. and N. C. Burke, from Canada; Mr. P. Kearney, an old timer who came out before railroads were running; Mr. Banks, of Missouri; Mr. Todd, an old timer from the Provinces; Mike Conway, who years ago had charge of New Rochelle when it was a "test" office, and is now day chief; John Smith, of Chicago, night chief; Alexander Bruckman; John Gray; and Mr. Curtis, of St. Louis. Mr. Keeler is night manager. John Morrison, than whom there is no better as an operator, left us two weeks since to try his fortunes in Gotham. One of our city papers, the *Evening Dispatch*, is owned and run by an ex-telegrapher, Frank Cook, formerly of Cincinnati, and he breaks out into a humorous strain at times. One of his standing notices reads as follows: "Write your communications on both sides, with a dull lead pencil, by moonlight, or any other way, so long as we get the news."

Mr. W. K. APPLEBAUGH returned from Paris on Saturday. He informs us that the three Parisian telephone companies—the Edison, the Gower, and a French concern, using practically the Bell telephone—have consolidated, and are now run under one management. The American exchange system is making splendid progress in Paris. The charge to subscribers is about \$100 a year.

The Oil City Office, Pennsylvania, has had a number of well-known old-timers during the past few years, such as the only Eitemiller, John Henderson Moreland, Al Babb, Ray Fitch, Billy Talcott, Jim Colter and others. We now find M. E. Luce as manager, Frank Ross, assistant, and the following operators: Ed. Keene, Fattie Skelly, George Ross, George Farwell, Jennette, Springer and Hughes—all first-class men, at least a daily average of two hundred and ninety-five messages per man shows no plugium. Harvey Rathburn, of Petroleum Centre fame, handles the Faber on report. We also have a local company, the Empire. About a year ago this company was organized for Oil Country business, and has been gradually extending its lines, until it is now within a few miles of Pittsburg, where it will join fortunes, and sink or swim, with the American Union, and will, no doubt, prove an important feeder to that company. Colonel Drake occupies the managerial chair at this place, with S. M. McKee and Joe Harvey as assistants. At Titusville they have as manager Fred McCrum. During the month three sets of duplex will be added to Oil City office—Bradford, Parker, and New York; also two new men. "30."

N. AND N. W. RAILWAY, CANADA.—Since the amalgamation of the Northern Railway with the Hamilton and Northwestern Railway, they are known as the Northern and Northwestern Railways. At Hamilton Depot we find Mr. Nichol, ticket agent and operator. At "C" office are our genial train dispatchers, C. Hotchkiss and W. J. Grant. "D" office is looked after by Alf Tait. A. A. Farmer still holds forth at Burlington. (Beach trains not running, too cold now). At Georgetown we find C. G. Cavanagh, agent. Operator A. Wilson has been promoted to be agent at Bradford—a just promotion. His place is ably filled by Tom. W. Shaw, from Beston. George Deuch is kept busy at Caledon East, and W. P. Paton rushes biz at L. G. and B. Railway Depot, Mono Road. Mr. Bell, of Tottenham, has just returned from a three weeks' trip West, and looks well. D. Robinson has been promoted from Palgrave to Avening, a nice station on the Branch. J. M. Dickinson is the popular agent at Alliston. J. Harneth is still at Glencairn. At Allandale Mr. McGill is agent, assisted by operators Kelsey and Thornton, and Mr. Downie looks after the car distribution, same place. A good number of our boys read THE OPERATOR, why can't they all take it—only 9 cents a month.

All the operators of the old American Telegraph Company remember W. D. Gentry, and they will be glad to hear that he is now a very popular and successful physician in Kansas City, Mo., where he has amassed quite a little competency to comfort him in his declining days. I remember the doctor when he was chief operator of the Baltimore office, and four operators, W. D. Gentry, Jack Guthridge, Paul Bossart, and Charley Crumbacker, constituted the entire force. In those days he could "whoop 'em up" quite as lively as any of the boys cared to take it. Of those four operators I believe they are all still living, and all connected in some way with the business, except the doctor. Jack Guthridge has always remained in Baltimore, and has seen the office grow from its smallest dimensions to its present size. Paul Bossart, after becoming one of the most proficient operators in the country, and filling various responsible positions, being at one time manager of the Gold and Stock in Boston, and also with Edison at his shops in Newark, afterward an assistant superintendent of the A. and P. at Buffalo, is now employed by the Bell Telephone Company, in Kansas City, and throughout the West. Crumbacker, I believe, is connected with the Fire Alarm and Police Telegraph in Baltimore, where he has been ever since he left the old American Telegraph Company.

HARPOCRATES.

Kansas City, Mo.

BIRTHS.

Nov. 6th, to L. F. Hanbee, operator, Slatington, Pa., a son, first edition.

Club Rates for Books and Paper.

We shall send the following publications, pre-paid by mail, to the same or separate addresses on receipt of price marked. Of the books, "Wired Love," "General Grant," "Lightning Flashes," and "Christmas Evergreens," are each bound in cloth, "Oakum Pickings" and "Sam Johnson" are in cloth or paper, as stated in each case.

The large number of combinations given will enable the purchaser to choose the books he most desires, and thus get them at wholesale price. Should any, however, desire a combination not given below, if they will write us we shall be pleased to quote them the price. Where telegraphers' visiting cards and telegraphers' New Year's cards are mentioned, the price quoted covers the printing of the name on each card. Should an address also be desired, send ten cents extra.

If THE OPERATOR is desired until January 1st, 1881, instead of one year, send ten cents in addition to the price quoted below. Where cloth-bound copies of "Oakum Pickings" or "Sam Johnson" are wanted where only paper-covered copies are advertised, remit twenty-five cents additional:

	Regular price.	Mailed together for.
Either 25 Telegraphers' New Year's Cards or 50 Telegraphers' Visiting Cards, with Engravings of both Professors Morse and Edison.....	\$ 60	\$ 50
25 New Year's Cards and 50 Visiting Cards.....	65	60
With Engravings of both Morse and Edison.....	90	75
Wired Love and either 25 New Year's or 50 Visiting Cards.....	1 10	1 00
Wired Love and either 25 New Year's or 50 Visiting Cards.....	1 40	1 25
Wired Love and Oakum Pickings, latter bound in paper.....	1 25	1 00
Wired Love and Oakum Pickings, both bound in cloth.....	1 50	1 25
Wired Love and Sam Johnson, latter bound in paper.....	1 50	1 25
Wired Love and Sam Johnson, both bound in cloth.....	1 75	1 50
Wired Love and either THE OPERATOR one year or General Grant.....	1 75	1 50
Wired Love and both THE OPERATOR one year and General Grant.....	2 75	2 25
Wired Love and either Christmas Evergreens or Lightning Flashes.....	2 25	1 75
Wired Love and both Christmas Evergreens and Lightning Flashes.....	3 75	2 75
Wired Love and both THE OPERATOR one year and Christmas Evergreens.....	3 25	2 50
Wired Love and both THE OPERATOR one year and Lightning Flashes.....	3 25	2 50
Wired Love and both Christmas Evergreens and General Grant.....	4 25	3 00
Wired Love, THE OPERATOR one year, Christmas Evergreens, and General Grant.....	5 75	3 75
Wired Love, THE OPERATOR one year, Evergreens, General Grant, and Lightning Flashes.....		
Wired Love, Grant, Evergreens, and Flashes (all cloth), together with Oakum Pickings and Sam Johnson (paper).....	6 00	3 75
The above six books all bound in cloth.....	6 50	4 00
The above six books (four cloth, two paper), together with THE OPERATOR until Jan. 1, 1881.....	7 10	4 75
The above six books all bound in cloth, with THE OPERATOR till January 1, 1881.....	7 60	5 00
Christmas Evergreens and THE OPERATOR one year or General Grant.....	2 50	2 00
Christmas Evergreens, THE OPERATOR one year, and General Grant.....	3 50	3 00
Christmas Evergreens and Lightning Flashes.....	3 00	2 25
Christmas Evergreens, THE OPERATOR one year, and Lightning Flashes.....	4 00	3 00
Christmas Evergreens, Lightning Flashes, and General Grant.....	4 00	3 00
Christmas Evergreens, Lightning Flashes, General Grant, and THE OPERATOR one year.....	5 00	3 75
Lightning Flashes and either Pickings (cloth), Wired Love (cloth), or Sam Johnson (paper).....	2 25	1 75
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Oakum Pickings (paper) and either 50 Visiting or 25 New Year's Cards.....	85	75
Oakum Pickings and Sam Johnson (both paper).....	1 25	1 00
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Oakum Pickings (paper) and Christmas Evergreens or Lightning Flashes.....	2 00	1 75
THE OPERATOR one year and either 50 Visiting or 25 New Year's Cards.....	1 35	1 25
THE OPERATOR one year and Sam Johnson (paper) or Oakum Pickings (cloth).....	1 75	1 50
THE OPERATOR one year and General Grant.....	2 00	1 75

SAM JOHNSON;

THE EXPERIENCE AND OBSERVATIONS

OF A RAILROAD TELEGRAPH OPERATOR.

By J. ALBERT CLIPPINGER.

Author of "The Pedagogy of Widow's Gulch," the "Sam-ton" Papers, etc.

177 Octavo pp., Strong Paper Covers, 75 Cents.

The object of this book is to portray the inside life of Railroaders and Railroadings, that part which is peculiar to themselves as a class, and of which the public have no just conception. The author has not confined himself to a dry detail of facts and figures, but has endeavored to depict dangerous and excitable, as well as laughable, incidents of actual occurrence, in a humorous, instructive, interesting, and original manner.

The book also contains much information that cannot be presented statistically. It is life history, and is intended to give "an insight into the inner life of Railroaders, a view of the daily and nightly workings of the busy bees who manipulate the two greatest agents of modern civilization—Electricity and Steam. It shows their virtues, their follies, and their humors, the dangers and privations they undergo, as well as the pleasures and happiness they experience."

A dollar in paper currency inclosed in a stout envelope will be reasonably certain to reach us. Money sent in that manner, however, is at the risk of the remitter. When the amount is over one dollar a post office order, or a draft on New York, payable to the order of W. J. Johnston, should be procured, or else the letter registered. Money sent in either of the latter ways is at our risk. For fractions of a dollar, or where it is inconvenient to send cash, U. S. 1, 2, or 3 cent postage stamps will be accepted, though the cash is preferable. Don't send mutilated or worn-out currency, as it is impossible to use it except at a discount. Silver, except in small amounts, should not be sent in an unregistered letter. It is more satisfactory to send remittances to the publisher direct, but we have a large number of agents who will furnish the books and papers at the above prices.

Address your letter plainly:

W. J. JOHNSTON,

Publisher of The Operator,

P. O. Box 3332, New York.

A TELEGRAPHIC NOVEL!

JUST PUBLISHED.

"WIRED LOVE,"

A Romance of Dots and Dashes.

By ELLA CHEEVER THAYER.

"The old, old story" in a new, new way.

266 pages. Handsomely bound in cloth. Price 75 cents.

This brilliant little story should be read by every member of the telegraphic fraternity. Cupid "on the wire," although he meets with "breaks" and "crosses," is not dismayed, and refuses to be "switched off." The different features of an operator's daily life are ably set forth, and, aside from the novelty of the plot, the book is written in an easy humorous style. The chapter on "The Feast," and the mishaps and adventures of poor Quimby, will cause the heartiest laughter.

Get the book by all means, and you will wish to "G. A." without a break until the last chapter, "G. K.," is reached. Copies promptly mailed, postage prepaid, on receipt of price, 75 Cents, by Currency, Post Office order, or Postage stamps.

Lightning Flashes and Electric Dashes,

A VOLUME OF CHOICE

Telegraphic Literature, Humor, Fun, Wit, and Wisdom;

COMPILED BY

W. J. JOHNSTON, EDITOR OF THE OPERATOR,

WITH CONTRIBUTIONS FROM THE PENS OF

W. P. PHILLIPS, "John Oakum;" D. C. SHAW, "Oney Gagen;" J. A. CLIPPINGER, "Samson;" E. O. CHASE, "Nuf Ced;" JOSEPH CHRISTIE, "Werner;" T. C. NOBLE, JR., "Chops;" C. E. WATTS, "Yosef;" RALPH W. POPE, GEO. H. BLISS, J. D. REID, H. VAN HOEVENBERGH, MISS L. A. CHURCHILL, and others, and copiously illustrated.

The book also contains a brief and interesting life of PROFESSOR MORSE, by Benson J. Lossing, the well-known historian; and a Telegraphic Sketch, by Charles Barnard, Editor of "World's Work," *Scribner's Monthly*, both handsomely illustrated.

176 Large Double-Column Octavo Pages. Cloth, \$1.50.

Few books devoted to a particular class of literature have called forth so many encomiums from press and public, or been read so extensively or so thoroughly, both by the profession for whose special delectation it was prepared, and by the general outside reader, as has the above book, "LIGHTNING FLASHES." The reason may be told in a few words: the book is made up of short, bright, crisp, ably-written stories and sketches from the pens of all the foremost writers in the ranks of telegraphic literature. Between its covers will be found a little of everything, and an infinite variety of styles. Prose and verse—mirth-provoking, witty, rollicking, humorous, pathetic, tender—from grave to gay, from lively to severe." The matter it contains has been carefully selected and arranged by the editor of THE OPERATOR, who also contributes to it, and nothing has been admitted into its pages that is not of a high order of literary merit, and of permanent interest to the telegraphic fraternity. It is beautifully illustrated throughout on tinted plate paper, by artists belonging to the telegraphic profession. The paper on which it is printed was manufactured specially for it; the pictures were drawn and engraved for it; and most of the sketches were also written specially for it. The paper is thick, smooth, and fine; the binding and general getting-up handsome and substantial, and the appearance rich, neat, and attractive. The book makes a beautiful ornament for a parlor table; and for a present—especially a holiday present—to a friend, old or young, married or single, in or out of the profession, nothing could be more appropriate. The size of the page is a large octavo double column, and the book contains more than three times as much matter, besides pictures, as ordinary \$1.50 books. One article alone, that by Benson J. Lossing, LL. D., the well-known historian and personal friend of Professor Morse, is well worth the entire price of the volume. With this article are given an excellent portrait of Prof. Morse; Morse's first recording telegraph; fac-simile of the first telegram, with a fac-simile of Prof. Morse's indorsement of it; Morse's residence at Poughkeepsie, and other illustrations, and the article itself contains a brief life of the great Father of the Telegraph with which every operator in the land should be thoroughly familiar. The price of the work was placed at the low figure of \$1.50, because we believed that a large number of copies would be sold, and we have not been disappointed. "Lightning Flashes" will afford delightful reading either for summer or winter, and no telegrapher should be without a copy.

The oldest newspaper on the continent, the Philadelphia *North American*, says of "Lightning Flashes": "Typographically, it is a handsome production, being illustrated with numerous well-executed cuts of excellent design, and of a humorous character. The contents consist of a large number of bright, spicy, piquant and humorous sketches from the pens of the best telegraphic writers, who have dressed them in smooth and entertaining language. It also contains an instructive and interesting history of Prof. Morse, from the pen of Benson J. Lossing. "Lightning Flashes," says the Glen Falls, N. Y. *Republican*, "is a mélange of history, poetry, narrative, humor, fun, wit, wisdom, profusely illustrated, and contains an interesting summary of the leading features in the life of Samuel F. B. Morse, inventor of the electric telegraph, including his earliest efforts, trials, and subsequent success."

The London, England, *Telegraphist* says: "LIGHTNING FLASHES AND ELECTRIC DASHES is fairly entitled to be styled *unique*, and reflects great credit upon all concerned in its production. Everything in the work is thoroughly telegraphic and highly amusing, the cartoons are cleverly executed, the narratives pithy and in part brilliantly worded, while the variety supplied will make it difficult for any who may have the privilege of reading the book to do so without enjoyment. We heartily recommend the work to our brother telegraphists."

The N. Y. *Hebrew Leader* says: "It is a work of valuable information, speeded with startling and humorous incidents of life, and is the second book published giving telegraphy a literature of its own. The first was very successful, and we should judge that this one will be fully appreciated by the reading public. Every person who has the fortune to see this volume will desire to possess it. The field for this kind of literature is much larger and more productive than we realized, and we shall look forward for fresh gatherings of the rich harvest it seemingly affords for charming summer reading."

The New York *Graphic* says: "Lightning Flashes" is an interesting collection of anecdotes and adventures peculiar to telegraphic experience. Few occupations are so well calculated to furnish material for mirth as telegraphing. It offers such wide scope for the exercise of personal peculiarities on the part of those who invoke its aid, and its extensive range, including all sorts of people, incidents of a peculiar and amusing character are of frequent occurrence, the nature of which is well set forth in this entertaining volume. The book is written in a bright and sparkling style, and the numerous illustrations lend an additional interest to the work, which we have no doubt will meet with an extended sale."

The Harrisburg, Pa., *Independent* says: "We do not know that we have ever opened a volume that promised more genuine or wholesome entertainment, or that in the reading of which so fully realized our expectations of enjoyment, than did these 'Lightning Flashes.' The interest of the reader commences with the initial chapter, and from this to the end of the volume there is nothing but a succession of pleasurable surprises. Of course the burden of most, if not all, the articles is of magnetic telegraphy, but the history and experience of that wonderful art is brimful of wisdom, fun, humor and wit, of which Mr. Johnston has taken advantage, and given us a volume that will take a high rank among the encyclopedias of anecdotal literature. The volume contains a number of finely executed engravings, illustrative of various parts of the text, while the binding and embossing are of the most superb character. Altogether the book is one of the best issues of its kind during the season, and should command a very large sale."

A TIMELY AND INTERESTING VOLUME!

JUST PUBLISHED.



General Ulysses S. Grant:

HIS

EARLY LIFE

AND

MILITARY CAREER,

WITH A BRIEF ACCOUNT OF HIS

Presidential Administration and Tour Around the World.

BY J. K. LARKE.

512 PAGES; CLOTH; PRICE, \$1.00.

The only Complete Life of the Ex-President Published.

The honors showered upon General Grant in every country he visited during his recent triumphant tour around the world, as well as the enthusiastic reception accorded him on his arrival at San Francisco on his return, cannot fail to re-awaken an interest in that illustrious soldier that a mere narrative of his travels abroad will not wholly satisfy. His countrymen, and especially the rising generation, will desire at this time to read something of his earlier life, and particularly of the important part he took in the crushing out of the late rebellion,—of those brilliant military achievements during that terrible struggle for national existence that first brought his name prominently before the world as a great commander.

Stated in a few words, the aim of this volume is to give a complete, authentic and impartial biography of General Grant's boyhood; life at West Point; services in Mexico, Oregon and California; civil life, after resigning his army commission; re-entering military service on the outbreak of the rebellion, with his gradual rise from colonel of volunteers to general-in-chief of the armies of the United States, as well as all his campaigns and battles, from Belmont and Fort Donelson to the surrender of Lee and close of the war. To this is added a brief account of his nomination and election to the Presidency; some of the most important features of his administration during his eight years as Chief Executive of the nation, and a succinct history of his tour around the world, from the time he left Philadelphia, May 19th, 1877, until he reached San Francisco on his return, September 20th, 1879.

"I wish to do simple justice to General Grant when I say that his treatment of the Army of Northern Virginia is without a parallel in the history of the civilized world. When my poor soldiers, with famished faces, had neither food nor raiment, General Grant immediately issued the humane order that 40,000 rations should be furnished to the impoverished troops. * * * Both as a gentleman and an organizer of victorious war, General Grant has excelled all the North's most noted soldiers. He has exhibited more true courage, more real greatness of mind, more consummate prudence from the outset, and more heroic bravery than any other of the Federal Commanders."—General R. E. Lee.

Both books are for sale at all the leading book-stores, or can be ordered through any book-seller or news-agent.

Either, or both, as well as any other of the publications advertised in this issue, will be mailed, postage prepaid, on receipt of price, by the Publisher.

General Grant and either Oakum Pickings, cloth, or Sam Johnson, paper \$1.50
THE OPERATOR, one year, and General Grant. 1.75
General Grant and either Lightning Flashes or Christmas Evergreens. . . . 2.0

W. J. JOHNSTON, Publisher, P. O. Box 3,332, New York.

Dashes Here and There.

Manchester, N. H., is shortly to enjoy telephonic facilities, on the Bell central office system.

Haverhill, Mass., and Dover, N. H., are also meditating an indulgence in telephonic luxuries.

Ill fares the telegraph company, to hastening ills a prey,

Where wealth accumulates, and men decay.

Double attraction and dazzling and marvelous effect are given to the Niagara Falls, on the American shore, by means of the electric light.

Plowing by electricity, and other uses to which electricity has of late been successfully applied in France, foreshadow an entire revolution in motive power, and the substitution of electricity for steam.

Eleven million telegrams were sent in France during the year 1877, or about one for every three inhabitants. In Belgium during 1878 two millions were dispatched, making about one for every two and a half inhabitants.

"Do, do keep away from that window," said he: "But I'm not afraid of the lightning," replied she. "Ah, dear," continued the youth, frantically, "little do you realize how attractive you are." And having made this appeal, he was able to conduct 'er away.

According to the London *Daily News* the Bulgarian Telegraph Bureau has prohibited internal telegrams in the English and Italian languages, French, Russian, and German telegrams being, however, permitted. In Roumania, English telegrams are refused unless accompanied by a translation, while all other European languages are accepted at the Roumanian telegraph offices without translation.

A telephone line is about to be established between Clarendon, Stoneham, Warren, and Glade (Pa.). The contract has been awarded to Warren parties. The parties putting up the line are Rockwell & Co., Clarendon; White & Co., of Stoneham; L. A. Robinson, of Glade; and Beecher & Copeland, C. P. Henry, Struthers, Wells & Co., of Warren. The line will be in working order in about two or three weeks, work having already been commenced.

Danbury, Conn., though only boasting a population of about 7,000 people, has one of the most enterprising and successful telephonic exchanges in the country. Although operations were only commenced July 1st, fifteen miles of wire have already been strung, and upward of eighty business houses in Danbury and Bethel have been connected. The plan adopted is the central office system, with Bell telephones and the closed circuit signaling bell, the Blake microphonic transmitter being used.

The first number of the second volume of Mrs. Lamb's "History of the City of New York," is ready for subscribers. In the beginning of the second volume Mrs. Lamb takes up the thread of the narrative at the threshold of the revolution, and carries the reader through the exciting year 1775, pointing out the part played by New Yorkers. The number contains excellent portraits of General Phillip Schuyler, Wynant Van Zandt, Richard Montgomery, and a full page monotyp illustration. The entire volume will be issued at stated intervals in numbers. As this work cannot be found at the bookstores, all who wish to subscribe may send their names to, or call upon the publishers, Messrs. A. S. Barnes & Co., Nos. 111 and 113 William Street, New York. Canvasers should apply at once for territory, as all New Yorkers will be interested in seeing this work.

The Board of Aldermen of the city of Wilmington, N. C., at its regular monthly session, November 3d, adopted the following resolution:

Whereas, The excessive tariff levied by the Western Union Telegraph Company upon all dispatches sent and received through its office and over its lines, to and from Wilmington, for many years past, has been onerous and oppressive to a degree that has retarded business, not only in our city, but throughout the whole south; and, whereas, the great monopoly star-chamber, the Western Union Telegraph Company, has repeatedly refused to lessen the burdensome rates upon our business men, etc., therefore be it

Ordered, That the telegraph business of the City Government be tendered to the American Union Telegraph Company for a term of five years to all points reached by its lines; provided, that it extends its lines to Wilmington within one year, and establishes a rate not less than 20 per cent. under the present rate of the Western Union Company; also, that a copy of this resolution be sent Mr. D. H. Bates, president of the American Union Telegraph Company.

Reductions in Price!

Third Edition of the Spicy, Attractive, Entertaining, and Popular Work,

OAKUM PICKINGS.

A Miscellaneous Collection of Stories, Sketches, Essays, and Paragraphs, Telegraphic and General, contributed from time to time to the Telegraphic Papers, New York Graphic, Hearth and Home, Danbury News, and other first-class Journals, by Mr. Walter P. Phillips, Assistant General Agent New York Associated Press, under the nom de plume of John Oakum, with a fine Steel Plate Portrait of the Author.

Third Edition, 188 pp.; Medium 12mo; Full Cloth, 75 c.; Paper, 50 Cts.

THE demand for copies of OAKUM PICKINGS has been so great that already two entire editions of the work have been sold, and still, like *Oliver Twist*, the Telegraphic fraternity calls for more. So many requests have reached us for an edition of the book at a price which every Telegrapher in the land can afford to pay, that we have now issued OAKUM PICKINGS, printed on paper equal in quality to that used in the best edition, with a steel-plate engraving of the author, and substantially bound in strong paper at the very reasonable price of Seventy-Five Cents a copy. The printing, binding, and general appearance of the book is acknowledged by both telegraphers and public to be of the very neatest and most tasteful description, while both individuals and newspapers agree that its contents are of an unusually amusing, lively, humorous, and thoroughly interesting character.

The enthusiastic and very gratifying welcome accorded this, the first book ever published with the object of giving the telegraph profession a literature of its own, has been so general and hearty on the part of both telegraphers, press, and general reading public in all parts of the country, that the publisher, in preparing the third edition, now ready, has been encouraged to make numerous important additions and improvements at increased outlay, which it is believed, will make the book a still greater favorite, and secure for it an even more extensive circulation and appreciation.

Mr. PHILLIPS, the author, is so well known to the fraternity as a spicy, original, witty, entertaining, and popular contributor to the current telegraphic and humorous literature of the day, and his character sketches of "Jim Lawless," "Tip McClosky," "Posie Van Dusen," "Cap. De Costa," etc., have won for him so enviable a reputation as a humorous sketch writer, that this opportunity of possessing a copy or his very choicest writings—the cream of his contributions to the telegraphic and general press—in one handsomely-bound volume, at a remarkably reasonable price, will, we feel certain be considered a rare treat by many hundreds of telegraphers and others who have made his acquaintance through these sketches.

CONTENTS OF OAKUM PICKINGS.

The book is divided into two parts. Part first contains 127 pages, embracing sketches, stories, essays, etc., each having a separate title, while part second, from page 128 to the end, contains thirty-three MINOR PARAGRAPHS, or short articles without titles. The contents are:

Love and Lightning,	Little Tip McClosky,	Block Island,
Old Jim Lawless,	Stage Coaching,	Bad Medicine,
Thomas Johnson,	Posie Van Dusen,	The Bloodless Onslaught,
Cap De Costa,	The Blue and The Gray,	Statistics,
Uncle Daniel,	An Autumn Episode,	Departed Days,
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Indeed, an examination will demonstrate that the edition of "Christmas Evergreens" for this year compares very favorably with any of the ordinary three, four, or even five dollar holiday books, either as to contents, illustrations, typographical appearance, paper, printing or binding. The publisher would thank all interested in the matter to make the comparison.

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AGENTS FOR 1879-80.

We desire, if possible, to secure a reliable and energetic agent for our publications in every city and town in which there is a telegraph office. The books being handsome, and the retail price low, sell well both among outsiders and telegraphers, while the commissions are so liberal that agents can derive a nice little extra revenue with but little exertion, and without in any manner interfering with their regular duties.

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Several agents did very nicely last year, although only one book—"Christmas Evergreens"—was tried. This year there are not only three additional books—two of them new—but "Christmas Evergreens" has been so thoroughly rearranged and improved that it also is virtually a new book. One agent last year wrote us that every one he showed "Christmas Evergreens" to was "delighted with it." Another said: "The book wins praises from all who see it." Still another, in acknowledging receipt of a number of books ordered, and ordering more, said that "all were very much pleased with it," and that if he "had time to run out during the day he could sell a large number of these beautiful books." A gentleman in Austin, Nevada, wrote: "This evening I called at the places of business of a few of my friends and got 22 more names. Please send 22 copies in addition to the 6 ordered this afternoon."

The edition for this year is so neat and attractive that agents will find no trouble whatever in selling copies of the book to every one of their acquaintances who intend making Christmas presents.

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Christmas Evergreens (cloth).....	\$1 50	\$1 00
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Wired Love (cloth).....	75	50
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Drop us a note that you desire to act as agent, and saying how many circulars you can judiciously distribute. These will be mailed you free and postage prepaid. Remit at same time for at least two of the books, although four—"Christmas Evergreens," "Lightning Flashes," "General Grant," and "Wired Love"—would be all the better. You will then be in a position to let intending purchasers see what the books are like, and will have no difficulty in selling those ordered and many more.

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We can in no case send books to be paid for on delivery; the money must accompany the order. Procure post-office order or draft when you can, or register your letter. Don't send more than a dollar in an ordinary letter. One, two, or three cent U. S. postage stamps will be received as cash.

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We also desire Agents everywhere for THE OPERATOR. Specimen copies for getting up clubs will be mailed free and postage pre-paid, on application. Send for some, and get up a club. As a specimen copy, however, was sent November 1st to about every Telegraph Office in the United States and Canada, further specimen copies in many cases will not be necessary. A cash commission of 20 per cent. is allowed on subscriptions; or premiums to the value of 25 cents on each yearly subscription, the getter-up having the privilege of choosing his own premium. Where orders are received for one or more books in connection with the paper, we will allow as much commission in each case as we can afford.

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The necessities of the telegraph business requiring an indestructible insulation, stimulated me to the discovery and perfecting of my compound known as Kerite, which combines the great advantage of durability with perfect insulation.

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50 cards, " 50 cts., " "
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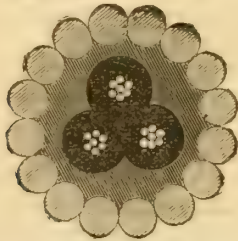
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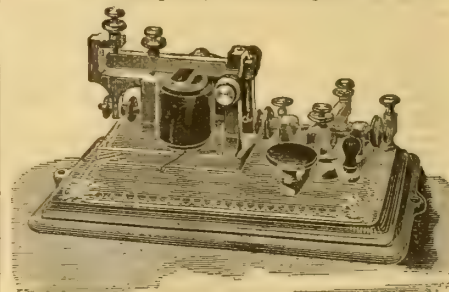
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VOL. X.—No. 23.

NEW YORK, DECEMBER 1, 1879.

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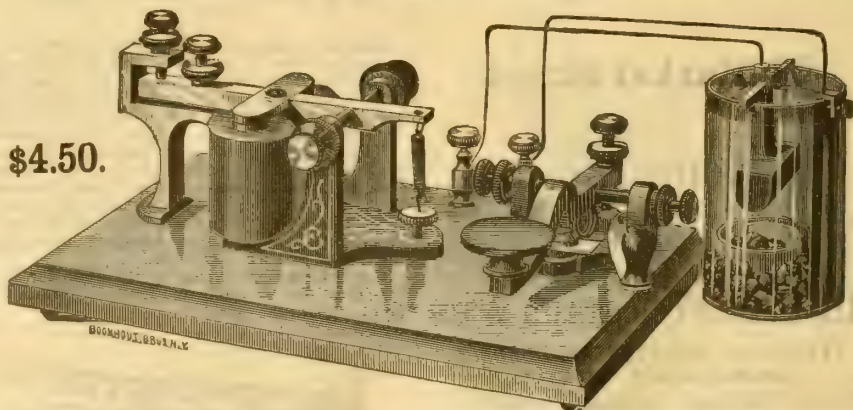
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THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY

December 1st, 1879.

Volume X.

Whole No. 139.

Supplanted.

When first I sought sweet Betsey Jane,
My bride elect to be,
And sent her "Christmas Evergreens,"
Firm was her love to me.

Epistles bold and full of love
I sent her by the score,
And as each answer I received
I loved her ten times more.

Kind words she sent me o'er the line;
By many I was blest;
Till whispers vile began to wound
The feelings in her breast.

A plug as rival came at last,
Attracted by her charms,
And turned her ardent love to hate—
Decoyed her from my arms.

'Tis true suspicion often rose
Of such a base design,
As Pluggy's words I'd chance to catch,
A-passing o'er the line.

But let her go; remorse will bring
Those former days to mind;
She'll think, when reading "Evergreens,"
On whom she's left behind.

When those bright charms, which did conspire
To captivate this heart,
Have fled, 'tis then she will regret
That from me she did part.

And when her hollow cheek grows pale,
And beauty its doth flee,
She'll read her "Christmas Evergreens,"
And sadly think of me!

NEW YORK, Nov. 20, 1879.

CROSS ARMS.

Successful Laying of the New French Cable.

A party of gentlemen interested in the new French cable, gathered at the American terminus, North Eastham, Mass., November 13th, to await the arrival of the Faraday, and the completion of the laying of the new cable. Among those present were D. H. Bates, President of the American Union Telegraph Company; George Von Chauvin, chief engineer and general manager of the Cable Company; Baron de Chambourg, Mr. Von Chauvin's secretary, and several others.

A cable dispatch was received, November 14th, from the Faraday, by the round-about way of France and back again by the Anglo-American cable, stating that the cable was in perfect condition, and that the Faraday was twenty miles off shore, and would be in sight by daylight. A watch was kept all night, but it was not until half-past seven on the morning of Saturday, the 15th, that she hove in sight. At a quarter past ten she came to anchor about three quarters of a mile off shore. A boat put off from the Faraday to make soundings and observations, and a large number of spectators gathered along the shore, expecting that the landing would at once be made. They were disappointed, however, as the sea became rough, and the Faraday, about two P. M., weighed anchor and returned to where the cable had been buoyed early in the morning, about ten miles from shore.

The shore end was successfully laid at six o'clock on Sunday evening, November 16th. About one thousand persons visited the beach during the day. The Faraday left for the spot where the cable had been buoyed, and the final splice was made on Monday. The first message sent over the new cable was the following:

NANSET BEACON LIGHT, CAPE COD, " "
North Eastham, Mass., Dec. 17, 1879.

To the President of Compagnie Francaise du Telegraph
de Paris et New York.

It gives me unbounded pleasure to send to you, through your own cable, this moment completed, the warmest congratulations of my own company upon an achievement in respect of which, both as regards rapid construction and the laying as well as perfect insulation, there is no parallel in cable history, it being only just seven months from this very day, the 17th of November, since the concession to your company was granted by the French Government. Messrs. Siemens Brothers, Mr. Loeffler, Capt. Trott, and Mr. George von Chauvin, your worthy representatives in this country, deserve the highest praise for the energetic and able part each has taken in this great enterprise, through the success and instrumentality of which it is devoutly hoped that national friendship and commercial intercourse between our two republics, as well as between the old and new worlds generally, will be still further strengthened and advanced. (Signed) D. H. BATES.
President American Union Telegraph Co.

The gentlemen who had gone to await the landing of the cable left North Eastham on a special train for Boston and New York, and arrived in this city on Monday. Before leaving North Eastham, cable director Brugiere and engineer von Chauvin wired their thanks on behalf of the French Cable Company to Secretary Evarts for the liberal action of the American Government, by means of which the cable was landed under very favorable circumstances.

The site chosen for the landing of the new cable is said to be excellent in every respect. The cable is the property of the "Compagnie Francaise de Telegraphie de Paris a New York," which is composed of French and American capitalists, the former having the larger interest. The company has a paid up capital of 42,000,000 francs, which is soon to be increased by 10,000,000 francs. The president is M. Pouyer-Quertier; the director general, Count Dillon, and the American representative is G. von Chauvin. The officers of the company are said to be men of ability and practical telegraphic experience. The cable proper, which is the work of Messrs. Siemens Brothers, of England, who constructed the direct cable, is stronger and heavier, and is considered more perfect than any other in use. A central wire of copper is surrounded by ten copper wires, twisted, insuring absolute conductivity in all weather. For insulating purposes three envelopes of gutta percha surround the wire, and outside of the gutta percha is placed a wrapping of manilla hemp, treated with Chatterton's compound. An armor of steel wire, for protection, is outside the hemp, the wires composing the armor being laid in a peculiar manner, side by side, so that fractures seem almost impossible to occur. Surrounding the armor is another covering of manilla hemp, saturated with an anti-corrosive compound, which makes assurance doubly sure that the cable will always be ready for use. The cable extends from Brest, France, to St. Pierre, Miquelon, and from St. Pierre to North Eastham, Mass., where it is to connect with the wires of the American Union Telegraph Company.

The Faraday will now return to Brest, when another cable of similar character will be laid from Brest to Land's End, England, establishing connection with that country. Next year the company will lay still another cable from Land's End to St. Pierre, thus establishing a double line between this country and Europe. To secure a landing place in the United States, the company gave the Government a guarantee, of which the following is the substance: "That the company shall not consolidate or amalgamate with any other line, or combine therewith for the purpose of regulating rates."

The following messages have been exchanged over the new cable:

To the President of the United States, Washington:

The President of the French Republic inaugurates the new cable which unites France and

America by sending the expression of his most cordial sentiments to the President of the Republic of the United States.

President Hayes sent the following reply:

To the President of the French Republic, Paris:

The President of the United States acknowledges with great satisfaction the agreeable communication by which the President of the French Republic makes known to him the completion and successful operation of the transatlantic cable, and hopes that it may never be the vehicle of any other messages between the Governments and people of the two countries than those of friendship and respect.

D. H. Bates, President of the American Union Telegraph Company, has received the following telegram from Count Dillon, the general manager of the new cable:

I am instructed by the President and Board of Directors of my company to acknowledge with the warmest thanks the receipt of your congratulatory message of the 17th instant. We cherish the hope that our joint efforts, by affording fresh facilities for telegraphic intercourse between the United States and the Continent of Europe, will benefit both nations, as well as promote the welfare of our companies. COUNT DILLON.

Mr. George von Chauvin, accompanied by Baron de Chambourg, representing the Direct French Cable Company, had an interview with Sir John A. Macdonald, at Ottawa, Canada, November 20th, with the view to learn the necessary steps for the company to procure the right for landing the cable upon the shore of the Dominion. It appears that, under the Electric Cable act, British companies alone are allowed to land cables within the limits of the Dominion, yet doubts are entertained as to its legal interpretation in denying the privilege to foreign companies. At any rate, there is little or no doubt, so far as can be learned, as to the ultimate successful result of this application, which merely involves a question of procedure. It is not the intention of the Direct French Cable Company to run a new ocean line for this purpose, but to extend cable connection from St. Pierre, Miquelon, to the mainland of Nova Scotia, in addition to their present connection between that island and Cape Cod. It is understood that the special feature of this company, if successful, will be a modification of the press rates of tolls between the Old and the New World.

The Saw is Mightier than the Sword.

It is only recently that the Saw has been called into requisition by able strategists as a prime factor in enterprising telegraphic opposition. The once esteemed ideas of Swain, and O'Reilly, and Orton, and James D. Reid, are now admitted to have been extremely primitive and crude, since all of those gentlemen, in building up their own lines, foolishly neglected to cut down the Opposition poles, and so failed literally to Saw themselves into prosperity. Take, for example, the contest between the Morse and House Patents. When the House men, in 1847, projected a line from New York to Boston, Mr. F. O. J. Smith, on behalf of the Morse Company, publicly advertised a wager of \$1,000 that he possessed a bull which could carry a message over the route quicker than it could be telegraphed by the House Patent. Again, in 1870, the Western Union Company, being threatened with a vigorous opposition by the ridiculous Automatic Company, publicly advertised to race Mr. Little for \$1,000, each company to use one wire, the Automatic to have six operators (three at each end), and the Western Union only one operator at each end. In this way, instead of bringing hatchets and saws, and so running a live opposition, they incurred a certain risk of losing a thousand dollars, and at the same time permitted their non-betting competitors to go on erecting their lines. Hiram Sibley thus wasted many months and some thousands of dollars in trying to keep his opponents out of a single country town, but what would he say now if he Saw—that is, if he could see, the present total bag of thirty-one Opposition poles and eight miles of wire for a single day's work by one robust man, at a dollar and a half per day?

The subject may not have been thoroughly understood in those days, but it is now undeniably established that no Opposition Company can telegraph without wires and poles; and, consequently, the time and money which were once wasted in shilly-shallying with legal injunctions, straw bail, and anonymous affidavits, is now devoted to dealing heroically with the question, by treating the Opposition to a devastating nocturnal hail storm of hatchets and Saws.

It was first pointed out by Professor O'Hara as a wonderful electrical fact that nothing harrows the alleged soul of an energetic lineman so much as to see a rival pole standing close by his own line, pointing, as it were, the cross-arm of scorn at him. Researches in this direction, with an increase of salary of five dollars per month, led Signor Brannigan to demonstrate that, under certain favorable conditions, four miles of Opposition poles could be blown away on a perfectly calm night, leaving no traces behind them except a handful of sawdust and the wheel tracks of a large wagon. We cannot pretend to explain away these mysteries of our great art, nor could the great Signor Brannigan; but it is well understood that when ten dollars were added to his salary, and he found it charged on the pay roll under the grossly improbable head of "Repairs," he immediately continued his scientific researches in that direction with a vigor which would have made a Maine wood-chopper green with envy.

But we have not yet taken into consideration the vast economy of this entirely original system of "Competition." In olden times a first-class lawyer demanded, to start with, \$500 as a retainer. Now, under this intensely brilliant innovation, a good, reliable, cross-cut, Courtney-boat-Saw can be had for fifty cents, and for a dollar you can hire some wild countryman to use it for a whole day—saw-as-you-please. The saving at the very outset is thus plainly \$498.50, while the reckless Sawyer will in twelve hours cut down half the Opposition line of poles, and more effectually suspend their operations than could your \$500 lawyer by a month's legal argument.

But the great marvel to us is, why this promising scheme should stop at half measures. Since the aggrieved parties have stationed equestrian linemen—telegraphic cavalry, mounted on Saw-horses, of course—along as much as is left of their route, the Saw business has been in a somewhat drooping condition. But it is well known that, no matter how vigilantly an Opposition company may guard its poles, it cannot get along without a Main Office. Now, there is no reason in the world why a couple of able Pirates could not be hired cheap to conduct a little lively competition in Main Offices. A pinch or two of giant powder and a few parlor-matches would render any main office too hot for the stoutest and most uncompromising Opposition, while the simple argument of a common tomato can filled with dynamite would speedily convince the Opposition Board of Directors that there is no room at present for them in the great telegraphic business.

Notwithstanding all this, and although "Competition" has not yet been educated up to the point of parlor-matches and gunpowder, the new system is immeasurably superior to the milk-and-water policy of ten years ago. Clearly, no one knew how to "Complete" successfully in those days; for if they had possessed such valuable knowledge, there would certainly have been less telegraph lines in existence to-day, and they could have folded their arms, as some of our strategists do now, to mirthfully gaze upon the miles and miles of prostrate poles of an adolescent Opposition, and truthfully exclaim, with Caesar, in tones of triumph, "I came, I Sowed, I conquered."

Philadelphia, Nov. 22, 1879.

WERNER.

The Board of Directors of the American District Telegraph Company of this city, at its meeting November 26th, made the following appointments: E. W. Andrews, President; A. B. Cornell, First Vice-President; T. M. Foote, Second Vice-President; C. D. Wyman, Secretary and Treasurer; W. E. Huntington continued as Acting General Superintendent. Mr. Foote subsequently tendered his resignation as an officer of the company.

Pacific Coast Notes.

Grant has come and gone. We have been sequestered with greatness. He is a pretty good sort of a fellow, and, maybe, will be President again, but we have had just a little too much of him at one time. The papers have been filled with accounts of his doings, wires have been burdened with all the details of his daily movements, and operators became faint and weary in transmitting and receiving reports from metropolis, town and cross-roads where his greatness traveled, till in anguish of spirit they unanimously ejaculated "give us a rest." It was absolutely a relief, in reading the papers or receiving reports, to come across an Afghanistan item, or the brief but thrilling references to the unpleasantness in Zululand. But he has gone East now, and you'll soon know how it is yourself.

The Grant excitement had no sooner stopped "booming" than the edict in regard to "half rate" business came down upon us, and we began to speculate upon the probabilities of increased business and increased salaries. But speculation being a very uncertain and unremunerative pastime, it has not in the present instance "panned out" very rich; business has not increased very much, and salaries—well, we live in hopes, and meantime turn a hopeful eye toward the eastern horizon, above which the American Union "is looming" up. "Red" business is a novelty to those among us who have not been east of the Mississippi for five or six years. There will doubtless be a large increase in the volume of Trans-Continental telegrams as soon as the facts of the half-rate business are known to the public; whether it will have a tendency to increase the company's receipts is a subject for conjecture.

Pedestrianism, which was such a popular pastime among the fraternity here a short time back, fails to arouse the enthusiasm which it once did, but our distinguished representatives of the Tramp Brigade, Ned Reese and "Buffalo" Bowker, still keep in good training in case of the epidemic breaking out again. Seriously speaking, however, we are glad to know that we have men in the "profession" who are possessed of lusty strength and robust health. We wish there were more such; for, as a class, our long hours of duty prevent our getting sufficient physical exercise to keep the delicate machinery of the human body in good working order. But yet, that a few succeed shows that it is not entirely an impossibility—this requisite exercise in the open air. The good health of operators generally would be benefited to an almost incredible extent if it was universally indulged in.

There have been a number of changes made in the San Francisco office lately. We have lost Frank Medina, pensive, poetical, philosophical Frank, who has accepted a position at Sutro, Nevada. That the change may be a beneficial one for him is the wish of his many friends. He is one of our most "immediate" transmitters of Morse, with a record somewhere up in the forties. He has one fault—he *does* like to "rush" the fellow at the other end, and his nimble fingers and flexible wrist have worried many an embryo artist, and, doubtless, even some of the genus who are full fledged. John Donnelly has given up his night position and gone into the stock raising business in Washington territory. We hope he may succeed, not only because he deserves success, but because there are many men within the ranks of our profession who, having missed their vocation, may profit by an encouraging example, and be induced to strike out for "pastures new," thus achieving a fuller measure of success than is possible at their present calling, and also show the corporation employing them that operators are not entirely incapable of earning a living independent of telegraphy.

There are among telegraph operators men of various grades of mental calibre. In the class called "plugs" can be found a vast amount of talent and a good deal of genius. With many of them, telegraphy is only a "side speculation;" others are compelled by the force of circumstances to follow a calling for which they have no especial fitness, although they might achieve an enviable success in another field of labor.

On the other hand, there are, among the first-

class operators, men who have just dropped into the particular groove for which nature cast them. Some of them could not do so well at anything else, and might starve to death if their daily bread depended upon the brilliancy of their intellects, while some of them have also mistaken their calling; not that they do not do well at this, but that they could do even better at something else—men who would be an honor to any profession, and whose good qualities would shine out brightly through all the fogs of circumstance and all the frowns of fate. Telegraphy does not offer many opportunities to the ambitious. A man with the peculiar genius of an Edison may find in the study of the science of electricity a subject worthy of his life-long devotion, but the mere mastery of dot and dash; and the ability to make a "copper-plate" copy are not very reliable passports to fame or fortune, as far as the average operator is concerned.

But this is somewhat of a digression. If we continue to moralize we shall not be able to state that Mr. O'Reilly, after sojourning with us for seven or eight months, came to the conclusion that New York is, in some mysterious particular, preferable to San Francisco as a residence, and bled him thither. We hope he didn't carry back a too darkly colored picture of California life to show to our friends in the East, whom we had almost induced to believe that California is a civilized country. We hope "Miles" is a gainer by our loss. Mr. Dennis succeeds him. Mr. Huey is a new addition to the force. We are pleased to see Mr. Boynton (who has been hanging on the "ragged edge" for some time as an "extra"), obtain a good position with the railroad company at Reno. By allowing him to go, the Western Union Company has lost one of its most talented and valuable employees. "Jack" Powers has returned to work, after luxuriating for a couple of months at Paso Robles Hot Springs. Mud baths have apparently had a rejuvenating effect upon his naturally delicate constitution. With the veteran John Leach he divides the honors of being the heavy man of the office.

Miss Coates, who has been an employé of the Western Union Company upon this coast for several years, and who has for the past year been one of our half-dozen lady operators in the S. F. office, left for her home in Minnesota a week ago. Before her departure she was the recipient of a neat testimonial, in the shape of jewelry, from her friends and fellow-workers in the office, whose best wishes follow her eastward. There is but one, or possibly two, lady operators on the coast who can equal Miss Coates in expertness with pen and key. (This leaves that question of ability with a delightful margin of uncertainty for our lady friends of the coast to speculate upon.)

We caught a glimpse of Manager Stewart, of the Los Angeles office, who was visiting the metropolis a few weeks ago. He is looking natural, but scarcely as ethereal as a truly representative denizen of the "City of the Angels" should. The boys have generally settled down with the expectation of staying through the winter. Summer vacations are over for '79, and there will probably be but few more changes to record for the next four or five months.

No one else having done so, your correspondent accepts it as his duty to record the death of J. F. Fitzpatrick, who died in San Francisco about two months ago. He was well and favorably known among operators from Salt Lake westward, and when it became known that he had answered his last "call," many a heart became suddenly filled with tender memories of his pleasant face and kindly spirit, and many a voice ejaculated, "Poor Fitz!" although the mind of the speaker was conscious that the change from the life we know to the one that he now knows, was one by which our departed friend must be the gainer, for he had fought bravely for weary months against all-conquering Death. With a smiling face and cheerful speech he made daily and hourly combat with the Inevitable, until at length, weary and wasted, "like one who wraps the drapery of his couch about him and lies down to pleasant dreams," he went up higher. We will not say "none knew him but to love him;" there is a higher praise than that. He was outspoken in his convictions and may have gained the ill-will of those whom he occasionally censured; but his blunt honesty made him hosts of friends among those whose friendship is most valuable. "His failings leaned to virtues' side;" may he rest in peace.

November 19th,

PACIFICUS.

Sub-Division of the Electric Light.

Mr. Edison denies the rumor that prevailed some months ago, to the effect that he intended paying a visit to England about this time. He says that he finds too much to do at home. His steady application to work is said to be commencing to tell upon his appearance, and he is not so funny as he was a year ago. It is understood, however, that the experiments made with the electric light at Menlo Park have been so far successful that a public exhibition will shortly be given, which, it is believed, will demonstrate that Mr. Edison has at least got the right plan; and if so, he thinks he shall have done very well, considering the short time, has been at work.

It will be remembered that the plan of lighting streets, dwellings, and other buildings, as conceived by Edison, differed radically from the system of lighting large areas by means of the electric lamp which has now become familiar in New York and other cities. According to Edison's project, his electric lamps are to take the place of the common gas jets, and the lighting of large spaces by a strong electric light is not taken into consideration. Edison, therefore, was obliged to work out a practical scheme of sub-dividing the electric current so that one machine would support a number of lights; to construct a generator of electricity which would be more powerful than any other machine, and yet more economical; and to construct an indestructible lamp or a light-giving apparatus which would not be affected by the intense heat passing through it. There were many other details of the project which needed careful study and repeated experiment.

Dr. Norvin Green, President of the Western Union Telegraph Company, is President of the Edison Electric Light Company, and the directors are Tracy R. Edson, James H. Banker, Robert L. Cutting, Jr., Grosvenor P. Lowrey, Robert M. Gal-
laway, E. P. Fabbri, Dr. James O. Green, J. F. De Navaro, Henry Villard, Thomas A. Edison, and Lewis Roberts. The company has a capital of \$300,000, and furnishes the money needed by Edison to carry on his experiments.

A new electric lamp was recently exhibited in operation at the factory of Arnoux & Hochhausen, manufacturers of electrical lighting apparatus at Nos. 2 and 4 Howard street. The lamp is the device of Mr. Charles Sawyer, who exhibited an apparatus called the "Sawyer-Man Lamp" about a year ago. The light of this lamp was produced by the heating to a white heat of a slender short pencil of carboea supported in an hermetically sealed glass tube. This tube was filled with nitrogen gas, and contained at its base a preparation which the inventors claimed would prevent the destruction of the carbon pencil. The lamp exhibited is a modification of the Werderman and the Sawyer-Man lamps. The pencil is eight inches long, is hermetically sealed in a glass tube containing nitrogen and is fed upward, like the pencil of Werderman's lamp. Mr. Sawyer claimed that the pencil would need to be fed upward, one-sixteenth to one-thirty-second of an inch, once during a period of from nine to fourteen hours, and that the pencil would therefore supply light for about 1,500 continuous hours. This result Mr. Sawyer said was due to an electrical generator of his own design. The total cost of materials for a year's constant use of the lamp would be 12 cents. Three lamps were exhibited in one circuit, and each gave a good light. Any one light may be extinguished while the others remain unaffected. A company to be called the Eastern Manufacturing Company is to be organized in New York for the purpose of introducing the new apparatus. Mr. Sawyer said it is proposed at first to provide sets of lamps consisting of from two to six lamps, each set to be accompanied with an electrical generator and all necessary apparatus. The lamp is designed to be used in the place of gas-light, and Mr. Sawyer claims that he has accomplished the necessary sub-division of the light.

Astronomers say that it would take 1,250,000 years, provided there was a telegraph wire from the earth to the nebula in Andromeda, for a telegram to reach there. So, in view of these facts, it is thought best not to put the wire up.

Another Atlantic Cable Company.

The new French Cable Company which, but a short eight or nine months since, existed only in the minds of its promoters, is to-day a *fait accompli*, and is flashing under the ocean the congratulations of two continents.

This company, profiting by the costly experience of its predecessors in this formerly unexplored field, has been enabled to combine in the construction, insulation and submerging of its cable all the improvements that science has been able to offer; and from the moment of its inception to the hour its cable was successfully landed on Eastham Beach, not one hitch occurred in its arrangements, so perfect were they in their every detail.

The Anglo-American Company, which has heretofore managed to absorb every opposition company that has started, tried to nip the French Cable scheme in the bud by offering to its promoters large sums of money to abandon the enterprise. Failing in their efforts, they now pursue their game, and propose to starve the French company into a pool by announcing that the moment "the French company is in operation," they will reduce the cable rate from seventy-five cents (where they raised, and have kept it, ever since they gobbled up the Direct Company) to twelve and a half cents per word, plainly advertising the motive of the reduction by making it contingent upon the opening up of the French Cable Company. The public are not to be deceived, and will well understand whom they have to thank for any reduction in rates accorded, and will mark their appreciation of it by extending a generous patronage to the new company, which has had the pluck to take up the cudgels and fight single-handed one of the greatest monopolies extant.

We extend our hearty congratulations to the new company, and welcome it into the arena of legitimate and beneficial enterprise. The company is also to be congratulated upon having secured for its manager in this country Baron Von Chauvin, who is so well known in Canada and the United States, in connection with Laurence Oliphant, as the joint representatives of the Direct Cable Company before it fell into the clutches of the Anglo.

These gentlemen, ably seconded by Gen. Eckert in the United States, and Thomas Swinyard in Canada, contested the absorption of their company by the Anglo inch by inch, and would have been successful in their efforts to maintain its independence, had they not been foiled by the treachery of their stockholders, who sold to the Anglo Company the necessary stock to give them a controlling interest and the mastery of the situation. Since that hour Mr. Von Chauvin has devoted his entire energies to the formation of a new and independent cable company, and the success that has just crowned his magnificent efforts will show his old antagonist, John Pender, that all the money and other influence of the Anglo Cable and Globe Trust companies combined is as naught when pitted against a good cause championed by a determined and able man.—*Montreal Shareholder*.

A Blessing in Disguise.

While exceedingly aggravating just at present, the fierce opposition on the part of the Western Union Telegraph Company to the erection of the American Union Telegraph Company's wires, in the long run will prove of excellent service to the latter corporation. The business world is thoroughly tired of paying fancy prices to a telegraph monopoly, and looks forward to the erection of a competing line very joyfully, as a sure guarantee that telegraph tolls will come down. Had the work of building been permitted to go on undisturbed, the majority of people—forgetting their obligation to the new company—would have continued to patronize the old company merely from force of habit, since both companies would have been working at the same low rates. There would have been statesmanship, therefore, in a passive acceptance of the inevitable, and by following such a course, the best of a bad bargain would have been made. But by the most unseemly opposition that it has manifested toward the new line, the Western Union has royally advertised its enemy, and has, besides, stirred up a warm popular sympathy in its behalf. The average American likes to see fair play, and the average

American is very sure that fair play is about the last thing that has been conspicuous in this telegraph war. It is going too far, perhaps, to urge that positively foul play has been attempted; but it is certain that the majority of people believe that the employees of the Western Union, acting under orders from their officers, are the persons guilty of cutting down the American Union Company's poles. While there may be no foundation for this belief, the whole history of the fight since the new line started gives to it a colorable probability; and in a case of this sort, where the trial is not legal but popular, a reasonable presumption of guilt is ample to secure conviction. The end of the struggle will be that the new line, instead of gaining its business slowly, and, even then, gaining but a very small part of the business of its rival, will start into existence with a paying business assured to it, and with every prospect of compassing the most complete commercial success. And the gain of the American Union will be the Western Union's well-deserved loss.—*Philadelphia Times*.

General Grant's Life.

General U. S. Grant belongs to the American people and not to a party; consequently it is with pleasure that we take up the book entitled "General Ulysses S. Grant, His Early Life and Military Career, with a Brief Account of His Presidential Administration and Tour Around the World." The work is written by J. K. LARKE, and in dealing with the life of General Grant the author has avoided everything that could be looked upon as having any party significance. The aim of this volume of 512 pages is to give a complete, authentic and impartial biography of the now world-famed General, from his birth to the day when he landed at San Francisco after his eventful tour. His campaigns and battles are described with the vividness of one who saw what is there detailed, and as a historical work we know of none which is more likely to be read in future years than this neat volume by Mr. Larke, who has evidently devoted much time in research, to collect trustworthy material for his work. In order that the volume may be in the hands of all, it has been produced at the low price of \$1, neatly bound in cloth, gilt back and sides, and is published by W. J. Johnston of this City.—*New York Atlas*.

THE rapidity with which the new French cable has been laid is in striking contrast with the laying of the earlier Trans-Atlantic cables. When the first attempts were made, the practicability of the scheme appeared doubtful. Two failures occurred. The first cable, 1857-8, was defective, and though between August 13th and September 1st, 1878, 400 messages were sent between Valentia in Ireland and the Newfoundland coast, yet the rate of reception was very variable, the signals often unintelligible and requiring repetitions. After much trouble and cost, the location of the defect was ascertained, but all attempts to recover the cable failed. In 1865 was commenced the laying of the second cable, and about half of it had been paid out when it broke, and operations were suspended until the following year (1866), when a stronger but lighter and more flexible cable was successfully laid, the distance between Trinity Bay and Valentia being 2,134 miles. In 1869 the French Atlantic line between Brest and St. Pierre, and thence to Duxbury, Mass., went into operation, and in the summer of 1875 the final splice of the Direct Cable Company's line was made. Since the days when the difficulties in the way of Trans-Atlantic telegraphy appeared almost insuperable, mighty strides have been made in the electric art, and great facilities have been introduced in the method of paying out the cable from the ship, so that what was formerly regarded as a vast experiment has now become a very practicable work,

THE OPERATOR A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY

W. J. JOHNSTON, Editor and Publisher.

December 1st, 1879.

* Western Union stock is quoted at 106½, and A. & P. at 44½.

* GOVERNOR McCLELLAN, of New Jersey, has instructed the Prosecutor of the Pleas in each county through which the American Union poles pass, to enforce the law, and have the persons cutting that company's poles punished.

ANOTHER very important victory has been gained by the American Union at Harrison, (East Newark) N. J., the Vice Chancellor having granted an injunction restraining the municipal authorities from interfering with the new company's lines.

A DISPATCH from Winnipeg states that a stock company has been organized there, under a Dominion charter of 1874, to be known as the Canada Central Telegraph Company, with a capital of \$100,000, to build a telegraph line from Winnipeg to British Columbia.

THE King of Spain, who was married Nov. 29th, held sweet converse with his affianced, the Arch-duchess Christine, ten miles distant, by telephone, for several days preceding his marriage. During the life of his former wife, the young king was in the habit of carrying on telephonic communication with her during the hours that his regal duties called him from her side.

It is questionable now whether the American Union will actually open for business much before the first of January. Several hundred of its offices are ready, and a goodly number of employes under pay, but President Bates says that he does not want to open until everything is in good shape. The American Rapid will probably also open about the beginning of the new year. Their Boston line of two wires is about completed.

Mr. Clark B. Hotchkiss, assistant treasurer and secretary of the American District Telegraph Company, has resigned his position, to take effect Dec. 1. This is the second important change in the administration of the company within a few weeks. Mr. Hotchkiss is a gentleman of rare financial and executive ability, and has, by his wise counsel and advice, greatly advanced the interests of the company, not only in his own, but in other departments. Mr. Hotchkiss was for ten years connected with the American Exchange Bank, and left there, 1872, to become assistant treasurer of the District Company. On April 30, 1874, he was elected to the position of secretary, which he now resigns. Mr. Hotchkiss leaves his present position to become connected with the establishment of Messrs. L. G. Tillotson & Co., at Nos. 5 and 7 Dey Street, this city. The American District Company can ill afford to lose two officers who have identified themselves so closely in the building up and perfection of the American District system as have Messrs. Hotchkiss and Pope.

The American Union Suing the Western Union.

The cutting down of the American Union Company's poles in New Jersey has culminated in a suit, in Supreme Court Chambers, against the Western Union, Continental, and New Jersey & New England telegraph companies, and Amos E. Middleton, Edwin Middleton, and Garret S. Moss, for \$104,000 damages. The summons and complaint, together with copies of the affidavits in the case, have been served upon the defendants by the counsel of the American Union Telegraph Company. An injunction, pending the trial, has also been asked for, and notice given that application would be made on the first Monday in December for a preliminary injunction restraining the defendants from interfering with the American Union Company's line.

The complaint alleges that the American Union Telegraph Company is a corporation created under the laws of New Jersey, on June 27, 1879, to operate lines of telegraph through that State; that, in pursuance of that purpose, the plaintiffs constructed various lines of telegraph, and also set up poles, etc.; that the said poles, wires, and insulators have been at various places and times unlawfully and maliciously torn down and carried away and destroyed; that, as plaintiff is informed and believes, the defendants entered into a conspiracy with one another in the city of New York to do the acts mentioned, and, in pursuance thereof, the said poles, wires, and insulators have been so torn down, carried away, or destroyed by said defendants, or persons acting under their direction; that the poles and wires so destroyed are worth at least \$4,000; that the injury to the plaintiff is much greater than this amount, by reason of the interruption to the business of the plaintiff, but that it is impossible to ascertain the amount thereof in money; that the plaintiff believes that the defendants intend to continue the depredations upon the property of the plaintiff, and have threatened to cut down other poles, and have engaged divers evil-disposed persons to do so; therefore, the plaintiff demands that the defendants pay to the plaintiff \$4,000 as the value of said poles, etc., destroyed; that the defendants pay to the plaintiff \$100,000 as damages for the injury to the plaintiff by reason of the acts already committed beyond the value of the poles, wires, etc., and that the defendants be enjoined from tearing down, injuring, removing, or disturbing any of the telegraph poles, wires, or insulators of the plaintiff, or employing or inciting any person or persons to do so.

In an affidavit accompanying the summons and complaint, Mr. David H. Bates, president of the American Union Telegraph Company, states that he had a conversation with Mr. Babcock, trustee of the Adams estate in Middlesex County, where some of the poles of the plaintiff were erected and cut down, who told him that he went to the office of the Western Union Telegraph Company, and that he gave to the Western Union Company a power of attorney to do with the poles as they pleased; that Gibson, the tenant of Mr. Babcock, did not tear down the poles, but had carried them away after they were torn down; and that two lawyers had been to him to urge him to remove the poles; and deponent is informed that the lawyers were counsel for the Western Union Telegraph Company. Otis Cole states also in an affidavit that Gibson told him that the man who

superintended the cutting of the poles, etc., hired him to carry away and scatter them, which he did, in his barn. The affidavit of Mr. Benjamin H. Plum sustains the general charges of President Bates, and recites particular instances where the Western Union Company is alleged to have injured and retarded the construction of the American Union's lines.

Competition Benefiting Employees.

"Wabash," in this issue, expresses the belief that the craft will not be benefited very much, after all, by the advent of the new company. He also thinks that the Western Union's tariff is at present much too low, and that there is therefore no room for another telegraph company. The statements he makes are very preposterous, but the article is interesting, as showing the exhibition a man generally makes of himself when he attempts to write upon a subject of which he knows nothing.

Those best informed on the subject have every faith in the stability of the new company. The lines now building are unusually substantial, and a splendid foundation is being laid for the finest telegraphic organization that has ever existed in this or any other country. While it is not an absolute impossibility that the future may have changes in store, we are assured on the best authority that there is no present intention other than to build and operate a strictly first-class independent system of lines.

The American Union has all the money it needs. All bills are paid promptly, and the company will start without a dollar of debt.

The contracts for wire, etc., were made at the time when everything was cheapest, and the lines, although built in the very best manner, will probably not cost one-third as much as have similar lines belonging to the Western Union. The latter company, moreover, pays dividends on \$50,000,000 of stock, most of it pure water, while the American Union has only a capital of \$10,000,000. The Western Union has at the present time positively more business than it can handle to advantage, and its net profits are between \$400,000 and \$500,000 a month! so that there is no question as to there being room for another company. There is ample room in this country for two telegraph companies, both as extensive in their ramifications as is the Western Union. As to the matter of operators being benefited by competition, no sane man who knows anything about it will for a moment doubt. A General superintendent whom we met a few days ago remarked that it was "now the operators' innings, and he was very glad of it;" a Superintendent, too, whom we questioned on the subject of operators' salaries, said that, while he had not, up to that time, actually increased any salaries, he thought it would not be long until he should begin to do so, and, in the meantime, he was paying the operators he engaged from five to ten dollars a month more than he would have given the same men before the advent of the American Union. That any portion of the increased profits of the Western Union will be paid to operators, in higher salaries, we have seen too much of the dealings of that company with its employes to for a moment believe. It would be a very serious calamity indeed, for both telegraphers and the public, if the Western Union could in any manner get the control of the new company. It is aware, however, of the strength of its youthful competitor, and this accounts for the desperate battle it wages to destroy, or at least delay, it. An occasional "Wabash" may be found to cry, "Down with competition," but few intelligent telegraphers will re-echo the sentiment.

Arresting the Sawyers.

Five men belonging, it is alleged, to the gang of linemen who have been engaged in the depredations on the American Union Company's line through New Jersey, were arrested at Newark, November 18th. Three farmers of Mercer County, near Bordentown, who witnessed the cutting of the poles in that vicinity on the night of November 14th, visited Newark, and fully identified the prisoners. One of the persons arrested is Charles H. Middleton, of the Continental Company. He was held in \$800 to appear before the Grand Jury at Trenton in January. The others, Charles Van Horn, David Heller, John Pickett and David Muller, regular linemen in the employ of the Continental Company, were taken to Newton, Mercer County, November 19th, and bound over in the sum of \$500 each to appear before the coming term of the Grand Jury of Mercer County. A. L. Worthington became their bondsman. M. R. Beasley, prosecuting attorney of the State, and Colonel G. S. Cannon appeared for the American Union, and Hon. M. Hutchinson for the accused.

Five other linemen in the employ of the Continental Company were also arrested at Newark, Saturday, November 22d, and identified by farmers and others as being the parties who cut the American Union Company's poles in front of Mr. Babcock's property near Houtenville several weeks ago. They were taken to New Brunswick, Middlesex County, for a hearing. The names of the men are John R. Gorsuch, and Daniel Mullen, of Philadelphia; James B. Finnan, of New York; Charles Van Horn, of Trenton, and George Fritte, of Paterson. When arrested, the men were engaged in putting up poles in Newark for the Continental Telegraph Company, and their acts of damage to the new company's property are therefore believed by the officers of the American Union to have been inspired by the Continental or the Western Union Telegraph Company. The officers of the American Union hope to be able to have the men committed to jail, if they are discovered repeating their offenses. It is believed that all the persons engaged in the recent destruction of the new company's property have been identified, and are under arrest, or warrants are issued for their arrest.

Holiday Presents.

We shall be glad to purchase for our readers books, jewelry, or such other things as they may desire from the city for holiday presents. No charge will be made for the service, the goods being personally selected and furnished at lowest prices. State explicitly what you want, and remit about the amount you wish to pay, and the article or articles will be forwarded you at once by mail or express, as directed.

In this connection we would draw the attention of our readers who intend making holiday presents, to the handsome volume prepared especially for that purpose, and advertised in another part of this paper—"Christmas Evergreens." We do not believe that a neater or more appropriate present at the price can be had anywhere—at least this is the opinion of all who have seen the work, especially the new and improved edition for this year. The poems are, most of them, masterpieces; the engravings—fifty in number—are unusually fine; the paper, made to order for the purpose, is thick, smooth, and tinted; the printing is of the very best, while the binding and

embossing are models in their way, the edges, side, and back of the book being gilt. The price, securely wrapped in stout paper and postage prepaid to any address, is only \$1.50.

"Lightning Flashes," consisting of choice telegraphic and general literature, humor, fun, wit, and wisdom, also makes a very acceptable holiday gift. This book, which has met with a very flattering sale, contains articles from the pens of all the best telegraphic writers, as well as several well-known outsiders, and has been carefully compiled by the editor of THE OPERATOR. Full cloth extra, by mail, postpaid, \$1.50.

Another, and in some respects the best present that can be made, is a copy of THE OPERATOR for one year. The paper labors faithfully for the best interests and moral and social improvement of the telegraphic fraternity, and, in addition, keeps its readers fully informed of all matters pertaining to the business happening from time to time in any part of the world. The price, postage prepaid to any address, and addresses changed as often as desired, is only \$1 a year.

"General Grant; His Early Life and Military Career, with a Brief Account of His Presidential Administration and Tour Around the World," would not be unacceptable at this time, in view of the present popularity of that brilliant soldier, and the prospect of his becoming the next President. Although containing 512 closely-printed pages, and bound in full cloth, the price, prepaid, is only \$1 a copy.

That brilliant little telegraphic novel—the first telegraphic novel published—"Wired Love," by Miss Ella Chever Thayer, price, in cloth, 75 cents; "Sam Johnson;" the Experience and Observations of a Railroad Telegraph Operator, by J. Albert Clippinger, price 75 cents; or "Oakum Pickings," by W. P. Phillips, with portrait of author, price 75 cents in cloth or 50 cents in paper, though not so appropriate as the foregoing, would nevertheless answer admirably for low-priced holiday presents, as indeed would even the telegraphers' New Year's cards, or the engravings of Morse and Edison.

We have received a copy of the words and music of a very pretty song and chorus called "Home of my Childhood." The words are by Mr. W. H. Parsons, manager of the Western Union Telegraph Office, at Batavia, N. Y., and the music, which is easily played, by Mr. E. E. Todd, operator, of Rochester. The production is exceedingly creditable to these gentlemen, and demonstrates once more that there is considerable musical talent in the profession. Messrs. Giobons & Stone, of Rochester, publish the song.

At the Bellecourt Theatre, Lyons, there are 52 Jablockhoff electric lights. These are worked from three Gramme batteries, driven by two 25 horse power engines. The Chatelaine, Paris, has 16 lights. The Café Concert La Scala has also 16 lights, and the Grand Theatre, San Francisco, is likewise lit by Jablockhoff candles. In Persia the Shah has installed the same system, and inaugurated the lighting by himself closing the circuit.

The Supreme Court of Jefferson, Mo., granted a writ of habeas corpus in the case of E. H. Brown, manager of the Western Union Telegraph office in St. Louis, who was committed for contempt of court for refusing to produce telegrams before the Grand Jury.

Themes for the Thoughtful.

Books are embalmed minds.

Nothing is so good as it seems beforehand.

Make yourself necessary, and your success is certain.

There is no killing the suspicion that deceit has once begotten.

He that pelts at every barking dog must pick up many stones.

Health and happiness bring with them the true secret of beauty.

Happiness and unhappiness are qualities of the mind, not of place or position.

A propensity to hope and joy is real riches; one to fear and sorrow real poverty.

The yoke a man creates for himself by wrong doing will breed hate in the kindest nature.

Many a sweetly formed mouth has been disfigured and made hideous by the fiery tongue within it.

When gratitude has become a matter of reasoning, there are many ways of escaping from its bonds.

Commend a fool for his wit, or a knave for his honesty, and they will receive you into their bosom.

No man is called on to lose his own balance for the advancement of the world in any particular direction.

If one marches abreast with obstinate men who will rush on guns and spikes, he must share the consequences.

He who does not look out of himself, knows not the world. He who does not look into himself, knows not men.

A clear conscience can rest easy on a bed of granite, while an evil one would be uneasy on a bed of swansdown.

A head properly constituted can accommodate itself to whatever pillows the vicissitudes of fortune may place under it.

Words are messengers of good or evil—spiritual forces—angels of blessing or cursing. Unuttered we control them; uttered they control us.

Diogenes, being asked what beasts were apt to bite the worst, answered "Of all wild beasts—the slanderer; and of all tame beasts—the flatterer."

If you receive a trifling injury do not go about the streets proclaiming it and be anxious to avenge it. It is wisdom to say little respecting the injury you have received.

If all men were to bring their misfortunes together in one place, most would be glad to take their own home again, rather than take a portion out of the common stock.

Five great enemies to peace inhabit with us, viz.: avarice, ambition, envy, anger, and pride, and if those enemies were to be banished, we should infallibly enjoy perpetual peace.

He only is great who has the habits of greatness; who, after performing what none in ten thousand could accomplish, passes on like Samson, and "tells neither father nor mother of it."

Blessed be the man who knows how to caper and enjoy nonsense; woe to the man that parted early with his boyhood, and blessed be the man that carries his boyhood down latest into life.

A bird upon the wing may carry a seed that shall add a new species to the vegetable family of a continent; and just so a word, a thought, from a living soul may have results immeasurable, eternal.

It is not education that gives to the artistic eye power, but it can give it quickness and accuracy of execution. So the word-painters are not the men of most languages, but of keenest perceptions, and that instinct of utterance that snatches at the right word and sets it, flashing and scintillating, in the right place.

Our habitual life is like a wall hung with pictures, which has been shone on by the suns of many years; take one of the pictures away, and it leaves a definite blank space, to which our eyes can never turn without a sensation of discomfort. Nay, the involuntary loss of any familiar object almost always brings a chill as if from an evil omen; it seems to be the first finger shadow of approaching death.

Telegrapher's Mutual Benefit Association.

The regular annual meeting of the above association was held in this city on Wednesday, November 19th. From the report of President Reid it appears that the association is in an exceedingly prosperous condition. The total receipts for the year have been \$24,685.45, and the expenses \$19,420.76, leaving a balance for the year of \$5,264.70. Of this amount \$4,000 was paid on claims for deaths which occurred in 1878, \$14,000 on claims accruing in 1879, and \$1,420.76 for current expenses. The total number of deaths during the year was sixteen, and the number of assessments twelve, four claims being paid out of the reserve fund.

Western Union bonds to the amount of \$7,946.25 (\$7,000 bonds) were purchased during the year, and added to the reserve fund, swelling that fund to the maximum allowed by the constitution, \$20,000. \$2,000 has been appropriated by the Western Union to liquidate the claims heretofore paid of the two members who died last year of yellow fever. No new deaths from that cause have occurred during the present year.

The report of Mr. A. H. Watson, secretary, shows that during the year 28 applications were rejected; 266 new members admitted, and 18 restored to membership; 104 became delinquent, 5 resigned, and 16 died, leaving the present membership 2,045. The number of deaths is at the rate of one in every 118 members.

Last year's officers were re-elected for the ensuing year, viz.: President, J. D. Reid; Vice-president, F. A. Armstrong; Secretary, A. H. Watson; Treasurer, R. H. Rochester. Executive Committee: C. H. Summers, of Chicago, Ill.; J. Merrihew, of Philadelphia, Pa.; J. T. Allyn, of New Orleans, La.; A. S. Brown and William Holmes, of New York. Auditing Committee: H. C. Robinson, of Philadelphia, Pa.; R. W. Pope and Thos. P. Scully of New York.

Mr. Hallock, who had allowed his policy to lapse through a misunderstanding, appealed to the meeting to be restored to membership, the Executive Committee having refused, as not having the power, to re-instate him. After considerable discussion, the action of the Executive Committee was approved.

At the adjourned meeting held the following night, several changes were made in the Constitution and the By-Laws. The minimum age for new members, or for applicants for restoration to membership, was changed from 16 to 18, and the maximum from 40 to 45. The reserve fund is in future to consist of an amount equal to one per cent. of the entire amount of insurance furnished by the association, and when the number of deaths occurring in any one year is more than fifteen, the surplus assessments are to be paid out of the reserve fund. When a member without consent of the Executive Committee leaves an uninfected State, Territory, or Province, to take up his residence in another State or Province, in which an epidemic shall be known or liable to exist, he is to forfeit all the rights and benefits of membership while he remains in such infected district. Any member of the association in good standing, and in good physical condition, who shall make application on or before May 1, 1880, is to be admitted to the Second Division.

A resolution was passed recognizing the deep and unselfish interest of the late John Fuller in everything pertaining to the association. Also resolutions of thanks to officers and agents for the zeal and ability with which they had gratuitously discharged their onerous duties during the year.

Jack Conners' Immortal Verse.

"Jack Conners" will be remembered by most all old timers. He died down South, of yellow fever, some years ago, while in the service of the Southern and Atlantic Telegraph Co. Eleven years ago he worked for the old Franklin Telegraph Company, at No. 11 Broad street, New York. Jack was one of the most expert operators of the day, and respected by the craft for his unapproachable "copy", which he usually made eight to ten words behind, frequently stopping to light his old briar root, and

catching up a whole message behind. "Little Spraguey" (now deceased), long noted for his fine "copy," worked in the office with Jack at this time, and was only overshadowed in copy by Jack. The great fault with Jack was that he was too fond of bad whiskey, and spent too much time in bad society in the old Bismark Concert Hall in the Bowery. He was eccentric in his dealings with boarding house madams and those who lent him cash, as well as in his general "get up" and dress. One fine morning he entered the office where he had not been seen since last pay-day. His face was scratched up and bruised, resembling a *Herald* war map, and his shirt-bosom looked like the map of South America. Congress was then in session, and there was a great demand for first-class operators in Washington, which, doubtless, made Jack feel "solid" against punishment for protracted debauches. But submission by the manager had ceased to be a virtue, and on this occasion Jack was summarily dismissed on entering. Jack's smile was child-like and bland, as he caught a blank and indicted the following to the manager in the most exquisite penmanship:

"I'll place my pen behind my ear,
For Washington city I will steer.
I'll leave my board and washing, too,
Hump a diddle, doodle do!"

Down with Competition!

In your issue of the 1st instant, and indeed in nearly every issue since the "tangible incipency" of the American Union, it seems taken for granted that the establishment of that "institution" is to be the means of great benefit to the craft, besides revenging it upon the Western Union for the long endured oppressions of that company.

I cannot believe that this opinion can be anything like unanimous. There are those in the business who look upon it in quite a different light, and see in the American Union another feeble rival, gotten up to enrich the contractors and go the way of all its predecessors—proving a curse instead of a blessing!

I predict, the moment it has filled a few of its principal places, it will take full rank as "second fiddle," and remunerate its employes accordingly! In my opinion, rival companies are not the weapons to fight the "Anaconda" with, because, in truth, there is no necessity for them on any score. The W. U. does the telegraphing *cheap enough!* Yea, *too cheap!* These rivals know very well there are no margins in additional telegraph lines at present rates, and they propose—what? Lower rates, of course. They are to make their money, then, out of the stockholders.

Who is it that says the rates are too high? Ask every intelligent operator throughout the land to canvass his customers and answer this question; and he will answer, from the Rio Grande to the St. Lawrence, that it is those among them who are not only the most incapable of an enlightened judgment, but who are absolutely the meanest of them; vulgar-hearted creatures who cannot conceive that it is possible for those who slave, day and night, Sunday and Monday, year in and year out, to desire or be able to appreciate more than a beggarly existence; and long for opposition, because it will make the rates *cheaper!*

They judge correctly there. Opposition will always make the rates *lower*, and the bread of us and those for whom we live, *higher*.

Of course, every one recognizes that a great portion of the "press" favors competition and lower rates simply because, but for the telegraph news, many of the "dailies" would never be seen or heard of outside of the "intelligent community" in which they are published.

No! The way to "crowd" the Western Union for the general good is, to protest against any further insane reduction of rates, and advocate *higher*; to the end that it may receive something like compensation for the service, or at least that part of it that it pretends to charge for, that it renders, and be enabled to remunerate its employes.

I will omit for the present my ideas and opinions regarding the enormous quantity of service it renders without any pretension to compensation whatever, on railway and other like accounts.

WABASH.

Treatment of Operators on the Pacific Coast.

The changes for the better, which are taking place slowly, but surely, in the condition of our Eastern brethren, are noted with pleasure by the operators of the Pacific Coast, and we hope and pray that they may continue and remain so. Would that we ourselves had cause to expect better times, but the outlook at present for operators on this side of the continent is indeed gloomy. When the so-called salary gradation took place we were given to understand that we need look for no further reduction as long as the business of the company kept up to the standard handled at that time; and, to sweeten as much as possible the bitter pill about to be swallowed, Mr. Gamble, our general superintendent, caused to be posted an order signed by himself to the effect that as vacancies occurred in higher grades they would be filled in every instance by men from grades directly beneath, and their salaries raised, etc., those of most ability and best records given preference. This, in spite of the well-known fact that the gradation scheme was only a mild form of reduction—the company getting the best of the bargain by a large majority—was comforting to some, who hoped to soon regain their old salaries, not thinking for a moment that our general superintendent would fail to keep his word. A few of the knowing ones, however, ridiculed the idea of "Old Jim" keeping faith with operators, and made up their minds to grin and bear it, as they couldn't help themselves, not looking for an increase, and only fearing a decrease in their wages. As the sequel will show, their estimate of the character of the man was the correct one. Not long since two vacancies occurred in higher grades in San Francisco, and those who expected an advance were doomed to disappointment. Not a word was said by Mr. Gamble or his assistants about it, but instead a new grade has been made, and of course it is a lower one than any of the others. Hereafter new men entering the service at San Francisco will receive seventy-five or eighty dollars per month. The first one to suffer by this new schedule of prices is one who for several years has worked for the company at Virginia City, and was recently transferred at his own request to this office. This gentleman before starting was telegraphed that his salary would be ninety dollars. After working here four or five days, however, he was informed that a mistake had been made, and they could only pay him eighty dollars; that he might return to Virginia City if he wished. The gentleman concluded to remain, not desiring to return to Virginia City. Inasmuch as an operator who was an entire stranger was employed the day before at ninety dollars, this looks, to say the least, like very shabby treatment of a faithful employé and a first-class operator. Mr. Editor, can you, or can any of your readers, inform me how it is that when a reduction of expenses—no matter how great or how small—has been determined upon by the powers that be, the operating department is the first to suffer, and, in many cases, the only one that does suffer? Why don't these salary-trimmers sometimes think of a saving to be made in other departments—their own, for instance? Is it because operators are more plenty than clerks? Or is it because operators have less spirit than other employes, and will be less likely to mutiny? It looks to one who has noted, with sadness, the gradual decline for years past, both in importance and independence, of the first-class operator, that the latter reason must, though humiliating, be accepted as the correct one. But it must seem fair to all unprejudiced minds that if a reduction is actually necessary (which it is not at this time), other departments should be made to stand a part of it—not tax the operators for it all. If, as the authorities claim, only a certain amount is allowed for expenses, why do a few favored ones receive good salaries at the expense of more deserving ones? There are several cases of individuals on this coast receiving more wages than they earn, for which no doubt those less favored must suffer. I will mention but one, as I fear I am using too much of your valuable space. Mr. Gamble's son, a youth scarcely out of his teens, was placed by his father in one of the departments down stairs,

at a salary of eighty dollars a month, the same as paid to a first-class operator entering the service now. When I tell you that his predecessor, one who had had years of experience, was paid but forty, and that, I think, only after two or three years apprenticeship; also, that young Gamble never saw the inside of the office before, and knew nothing about the business when he entered the service, I think you will agree with me that something is rotten in Denmark. When first-class operators are placed in the same salary grade with boys who do nothing but address messages, then I say operators should put their thinking caps on. The question is: How long are operators going to stand being treated like Chinamen? How long are they going to stand idly by and allow themselves to be robbed by selfish and unprincipled overseers and drivers of this grasping monopoly? The company has no cause whatever for this continued pruning of employes' wages. Business on this coast was never better than now, the overland wires being crowded all the time. No one who will reason with himself can fail to be convinced that still further cutting of salaries is contemplated, and will be kept up just so long as the victims of this most unjust warfare stand it. Look at Ogden office to-day; once, when business was handled at Salt Lake, the pride of the West, now a place shunned by all in quest of a situation, and its management spoken of by all decent men with loathing and contempt. This seems to be the fate in store for San Francisco as regards salary, if something is not done to check the downward movement. Five or six years ago salaries here were \$120 and \$110; to-day three men receive \$100, the balance \$95, \$90, and \$80, and now is contemplated a \$75 grade. What will it be five years hence?

JENKINS.

The Royal Wooing by Telephone.

The wooing conducted by telephone between the young King of Spain, in his stately palace in Madrid, and the Archduchess Christine, in the rural Pardo, ten miles distant, is a picturesque illustration of the practical applications of modern science. It seems only the other day that the capacities of this necromantic little contrivance were first exhibited in the old town of Salem, and already its use has spread throughout the world and made fortunes for the inventors and their early associates almost as magical as the instrument itself. It was a very appropriate place for the first public display of the telephone—that old town where the Puritans hanged witches and pressed to death Giles Cory, whom Longfellow has commemorated in one of his dramatic poems. If the spirits of any of those unhappy martyrs of superstition were hovering about the spot, they must have felt themselves avenged by beholding the descendants of their judges and executioners in the admiring audience; and still more satisfaction, if possible, must the ghosts of the victims of the Inquisition take in hearing a Spanish King whisper love messages into a machine the possession of which his ancestors and their Dominican inquisitors would have deemed ample cause for sentence to the stake. But if a pair may woo by telephone, why may they not marry by the same? And if they marry by telephone, and the wire happens to stretch between conflicting jurisdictions, what complicated difficulties as to the law of domicile and divorce and *loci contractus* does not such a possibility involve?—*New York Herald*.

Telegrapher's Paralysis.

A subscriber of THE OPERATOR states that the so-called writer's cramp in hand and arm is caused by operators not resting the elbow on the table while writing. The cramps and pains come from resting the arm, between the wrist and elbow, on the edge of the table, which prevents free circulation of the blood, and occasions great pressure on the muscles, instead of the whole arm, to, and including the elbow. This, he asserts, is the reason of it, which he discovered after suffering over a year. He states that after trying this method, the pains and cramps permanently left him. He now writes steadily all day, and has for a month, without the

least cramp or pains. Others are said to have tried it with like success. He now makes it known to his fellow operators, and hopes it will relieve them also.

The Student Question.

"Elliott" but re-echoes my feelings on the subject of students. Within the past five years "sliding-scales" and "gradations" have struck so severely upon my head that I have suffered a reduction of exactly twenty-five dollars per month, and yet all these ten years have I continued to improve in ability and reliability, as can easily be verified.

SOUNDER.

Having just read Elliott's letter in THE OPERATOR of November 15, I would like to say a few words heartily indorsing his opinion. Few operators stop to think, when taking a student; or, if conscience does give them a twinge, excuse themselves by saying: "Well, it's only one more." Right there, brothers, is where we err and beat ourselves, when, perhaps, every fifth operator in this vast United States is saving and doing the same thing. With shame I acknowledge that I committed that same mistake, having learned several. But finally, thank God, my eyes were opened, and I saw what it was leading to and stopped right there and then. And as long as I continue in the service I intend sticking to, that resolution. We can have it entirely in our own hands if we would only stick to this, and in a few years there would be superintendents hunting operators instead of us looking for a job at \$35 or \$40 per month. There is a steady increase in the demand for operators, and companies and corporations will soon have to come to our terms in regard to salaries, if we only adopt this rule: Not to teach any one. In the last two weeks I have refused two students, one at \$7 per month until learned, and the other a particular friend of mine, a boy I went to school with and grew up with almost as brother. I have firmly taken my stand on the subject, and am going to stick to it.

OPR. M. K. & T. R. R.

Dashes Here and There.

A telegraphic communication with Cabul and Candahar has been completed.

At Aldersgate Station, on the Metropolitan Railroad in London, an electric light is now used. It admits of great division. The machine produces eight lights, but could furnish sixteen. The lamps are expensive, costing \$75 each, but the light of each costs but three cents an hour. The eight lamps take the place of thirty-six gas burners, and the light given is much greater than when gas was used.

The German military have been trying submerged electric lights in the Rhine for detecting torpedoes moored under water. A transparent globe enclosing an electric lamp was sunk 60 metres below the surface, and by means of the current from a generator on shore, it served to illuminate the surrounding water and bottom. For engineering surveys, and for attracting fish, these subaqueous lights may be of considerable use.

A considerable change has taken place in operating the ocean cables, the nature of which may not be generally known. All the cables, both from Ireland and France, now terminate at Newfoundland, St. Pierre, or Torbay, from which points short cables are extended. Transmission, which was for a long time exclusively carried on by the mirror galvanometer, is now accomplished on the short cables by Duplex Morse Instruments.

An improvement in electric speaking telephones has been patented by Mr. Frank P. Mills, of Ishpeming, Mich. The object of this invention is to increase the sensitiveness of speaking telephones and the resulting effects by a new arrangement of the permanent magnet and the armatures thereof; and it consists, essentially, of a circular or cylindrical magnet surrounding the helix, the poles of which are brought close together, but insulated from each other by a peculiar arrangement and construction of armatures.

Grant is now so prominently to the fore that books about him are likely to command renewed attention. The one by J. K. Larke, entitled, "General U. S. Grant: His Early Life and Military Career," has been brought down to present time by the outlines of his

recent journey around the world. The book very thoroughly reviews the General's early days and the part taken by him in the war of the rebellion, making free use of military and public documents and newspaper extracts, and affording a good idea both of the times and of the man. W. J. Johnston is the publisher.—*American Bookseller*.

Gower's telephone has been adopted in Paris to connect the office of the *Temps* newspaper with the editor's home. Edison's telephone has been adopted by the Paris *Figaro*, and seats for theatres may be secured at the *Figaro* office by telephone, without the necessity of going to the theatre itself. Edison's telephone will probably also be installed in the French Senate and Chamber of Deputies. During the ensuing session it is stated that the telephone is to be employed in reporting the parliamentary debates for our own *Times*, and the type setter will be able to set them up as they are spoken to him, thereby saving the trouble of transcription from the short-hand report, and gaining some forty minutes in point of time; that is, enabling the paper to publish some forty minutes more of the proceedings; we are unable to understand, however, how type can be set up as rapidly as a speech can be delivered.—*Telegraphic Journal*.

At the recent inaugural meeting of the Medical Society of London, Dr. Richardson exhibited his latest form of sphygmophone for magnifying the beating of the pulse. It consists of an ingenious combination of the sismograph, by which the beating of the pulse is graphically delineated on paper, the microphone, which magnifies sound, and the telephone, which so marvelously enhances the power of hearing; and its effect is to render the beating of the pulse distinctly audible. The clock part of the sismograph is replaced by a microphonic slide, the working power is a small bi-chromate battery, a sismophone, then a rest for the wrist, and finally a Bell telephone. The principle is that, when the pulse is working the needle, a series of motions are made along the microphonic slide instead of along paper, and the sounds thus produced are communicated from the microphone to the telephone. By modifying the battery power the intensity of the sounds can be increased, so as to be heard thirty yards from the instrument, or so diminished as to be quite inaudible to a patient, and to require that the physician shall apply the telephone to his ear to be able to distinguish them.

In many of its aspects the telephone is, perhaps, the most interesting of modern inventions. It comes home to men's business in the telephonic exchange, and, as in the following pleasing incident, from an American source, equally to their bosoms. In the United States friends have their houses placed in telephonic communication, and they also communicate with the butcher and baker by telephone. A proud grandma, we are told, who had only just been promoted to the honors of that happy relationship, was awakened in the dead of night by the inexorable bell. "Mamma, dear," came to her the frightened voice of her beloved but inexperienced daughter, "I'm sure baby has the croup. What shall I do with it?" Grandamma replied that she would call the family doctor, and be with her anxious daughter in a moment. She awakened the doctor and told him the terrible news she had learned from her daughter. He in his turn requested to be put in telephonic communication with the too anxious mamma. "Lift the child to the telephone and let me hear it cough," he commands. The child is lifted, and it coughs. "That's not the croup," he declares, and declines to leave his house on such a small matter. He advises grandamma also to stay in bed; and, all anxiety quieted, the trio settle down happily for the night.—*Iron*.

Echoes from 197 and City Items.

Among the resignations from 197 taking effect December 1st, presumably for the American Union service, are A. T. Creelman and Ed Anson of the Chicago quad, Messrs. Boyer, Richardson and Miller of the night force, and Miss Monahan, Messrs. Al Voyer, J. R. Bradt, W. B. Waycott and Wilson of the day force.

Dr. Norvin Green, President, and George B. Prescott, Vice President of the Gold and Stock Telegraph Company, were before Judge Blatchford in the United States Circuit Court November 15th, touching their contempt of court in violating an injunction granted against them in the suit of Clinton G. Colgate, as already reported in THE OPERATOR. Dr. Green, as President of the Western Union Tele-

graph Company, also appeared in a similar suit brought by Mr. Colgate against that company. Both gentlemen were represented by counsel, and were discharged by the Court from further attendance upon a proposition made to furnish affidavits showing that the insulated wires that the defendants were enjoined from disposing of had been removed. The Judge intimated that no corporal punishment or fines would be inflicted in either case upon the persons individually charged with contempt of court, but that fines would possibly be inflicted on the defendants' corporations.

The annual meeting of the stock holders of the Continental Telegraph Company took place in a basement in Beaver St., on Wednesday last. Messrs. Shaw, Smith, Mott, "Doc" Middleton, and a couple more "stalwarts" comprised the "meeting," which lasted some fifteen minutes. This was a remarkably quick dispatch of business, considering the vast interests represented. It is said that the recent appointment of M. S. Smith as assistant manager of the office 13 Broad St., was fully confirmed. The list of the various district and division superintendents and general superintendents remains unchanged. After the close of the meeting the "Doc" was arrested by Deputy Sheriff McGonegal, and put under \$5,000 bail, for destroying the American Union Telegraph Company's property near Newtown, N. J., by cutting down and carting off 14 poles with wire and insulators. The "Doc," it is said, pleaded in mitigation, that he did it with the consent of the owners of the property on which the poles were erected.

Edward L. Hebbard, clerk in the employ of the Gold and Stock Telegraph Company, was arrested, Wednesday, on the charge of grand larceny. He is young, nice-looking, and well educated. On the 15th inst. he presented, as is alleged, a bill to Messrs. Lestrade & Doolittle, of No. 197 Duane Street, signed by the name of "E. Shaw, Collector," purporting to be from the Gold and Stock Telegraph Company, and a receipt for the connection with the Telephone Exchange for six months. Fifty dollars were given him by Mr. Francis W. Lestrade, in the belief, as he states, that he was authorized to collect the money. He learned afterward, however, that Hebbard was only a clerk in the telegraph company, and not treasurer, as he had claimed, and that no such person as E. Shaw was collector. Hebbard had in his possession, without authorization, a number of the company's bill heads like the one presented to the complainant. The case was adjourned for further examination. Young Hebbard is well connected and denies the charge.

Mr. Daniel J. Ludwig, manager of the commercial news department, 197 Broadway, has been promoted to the assistant superintendency. On Nov. 17th his assistants met and unanimously adopted resolutions reciting that, while they deeply regretted Mr. Ludwig's somewhat severed connection with them, they rejoice at his promotion. On the afternoon of November 20th, after leaving the office, Mr. Ludwig proceeded to meet his wife at the residence of some friends in Cumberland Street, Brooklyn, where he took tea. When he got home, about 9 o'clock, he was surprised to find his house all brightly lighted up and his parlors filled with many of his nearest friends, including his old business associates and a number of invited guests. The situation to him gradually developed itself during a very pleasant entertainment of magical performances. Mr. Ludwig was presented with an elegant watch chain and charm, made of gold and platinum; a beautiful pair of gold sleeve-buttons; a novelty in the way of a scarf-pin; a fine velvet-bound autograph album, and other articles.

While Mr. Norvin Green may not have advised, or even consented to, the acts of violence committed by agents of the Continental Company, his affidavit and the relation of that company to the Western Union make it very apparent that the latter company is responsible for the outrages. No one can believe that the fight which the Continental Company's officers and agents have been making against the American Union Company is solely for the interest of the former company. In fact there is only one telegraph company in active existence, and that is the Western Union. It will be the one to suffer from the competition created by the American Union. That it is interested in preventing the establishment of such competition is shown by the number of suits which it has instituted in different courts to avenge and delay the completion of the American Union's lines. How the Continental can

afford to carry on the species of warfare introduced in New Jersey, and which must be at considerable expense, no one who knows the past difficulties arising out of impecuniosity of that company, can understand; except upon the theory that the Continental Company is in fact the Western Union. When the closer relations of Mr. Green, and at least one of the officers of the Continental Company, as shown in the affidavit of Mr. Green, are taken into consideration, it is very hard to believe that the Western Union has no interest in, even if it had no hand in, the disgraceful proceedings connected with the construction of the American Union's line in New Jersey.—*New York American Exchange.*

Albany, New York, and Vicinity.

Mr. Wm. B. Derby, book-keeper for the W. U. in this city, has resigned, to accept a similar position with the A. & P. in Boston. Mr. Derby's successor has not yet been appointed. On the 19th inst. the W. U. office at Cohoes was badly damaged by water, and undue haste on the part of the firemen in tearing up tables, instruments, &c. Had Manager House moved last spring, as usual, this loss would, perhaps, have been averted. The American Union have leased, and are fitting up for their use as a main office, in this city, 444 Broadway, formerly used by the A. & P. They expect to open about December first. At a meeting of the members of the Telegrapher's Mutual Benefit Association, in Mr. Chas. C. Kings agency that gentleman was chosen as a delegate and represented this District at the annual meeting in New York City. It is with a feeling of deep regret that we have to announce the death of Mr. Fred A. Warriner, of the W. U. Mr. Warriner had been troubled more or less with kidney complaint for the past three years, but was able to attend to his duties in the office until early this month, when he became confined to his bed, and grew rapidly worse, until death ensued on the 19th inst. Mr. Warriner first entered the telegraphic service in 1857, learning under the veteran W. O. Shelley who is yet manager at Rome, New York. After brief service at Rome and Oneida, he was detailed by Major Priest to take charge of the New York Central Railroad Office at Troy, New York, where he remained for six years, entering the New York, Albany, and Buffalo Office at Troy in 1863. Believing the telegraphic service to be too confining, he became associated with Potter, Paris & Co., stove manufacturers, in Troy, but again entered the telegraphic service in 1873 in the W. U. office at 145 Broadway, New York, from which he was, in the fall of the same year, transferred to the Albany office, where he worked up to his last illness. He leaves a wife and four children, and we deeply sympathize with them in the loss of a husband and father, while we feel that in him we lose a kind-hearted and pleasant associate. We can find no better words than those of the *Albany Morning Express*: "He was an expert operator, and an able electrician. Socially, he was one of the most genial and warm-hearted of men, and his loss will be sadly felt, especially by his associates of the Western Union office in this city." The funeral services were held at his residence in Troy. His associates in this office placed on his coffin a very handsome floral cross, as a slight token of their regard and high esteem.

X. Y. Z.

PERSONALS.

Ed. Enos has been promoted from "owl," to day operator at the main office of the C. C. D. & M. Ry., Dubuque, Iowa.

Mr. Brown, night operator on the P. & E. R. R., has resigned, and accepted a position on the Tide Water line, at Petrolia, Pa.

Ex-Governor E. D. Morgan, a director of the Western Union Telegraph Company, has given \$25,000 to the Manhattan Eye and Ear Hospital of this city.

Mr. J. W. Stearns is manager at Warren, Pa., with Cap Walker as chief operator. Miss Cole is day operator P. E. depot, Warren, and Mr. Frank Wilkinson, as night operator.

It is stated in a telegram that ex-Secretary Gorham, of the United States Senate, will hereafter send from Washington to the San Francisco *Chronicle* telegraphic dispatches, for which he will receive \$5,000 a year.

A monument to Galvani has been erected in the busiest street of his native city, Bologna. It represents, admirably executed in marble, the great discoverer of animal electricity in the act of touching with two different metals the lumbar nerves of a vivisectioned frog.

Mr. A. D. Skinner, of the Western Union office, St. John, N. B., was entertained at supper Nov. 14, and presented with an address by his friends in the W. U. Company's service, on the eve of his departure for North Sydney.

A new office has been opened at Carencro, La., on Meehan's Attakapas telegraph line, with Mr. C. C. Delhomme in charge. Mr. Delhomme is brother of Mr. Albert Delhomme, of Breaux Bridge, who was last issue, owing to a stupid typographical error, spoken of as "Al De L. Power."

If we had not read it, we would not believe it. But we saw it in the *Herald*, "that employers should discharge men who join a union." And yet he talks of "personal liberty!" Personal liberty for the capitalist—not the workman. And in face of those words he claims to be their friend.—*Mansfield (Ohio) Courier.*

The editor of the *Herald* referred to, is O. H. Booth, superintendent of telegraph of the Pennsylvania R. R.

N. O. & M. R. R.—All quiet along the Gulf coast. Oranges and oysters plentiful. It is rumored that John S. Capers, operator at Mobile, is to be transferred to the dispatcher's office at New Orleans, in place of Mr. Westerfield, who goes to Mobile. Wm. Parham, working extra on this line for two years, has been appointed agent and operator at East Pascagoula. Miss Vice, M. A. Dees, and J. W. Jordan resigned. Mr. Wallace, train dispatcher and chief operator, has issued a card of instructions to the operators of this line, prohibiting students practicing telegraphing in any office of the company. This is certainly a move in the right direction, and should be speedily followed by all other chiefs and superintendents, which, it done, would help our cause not a little in the by and by.

PORTLAND, ME.—Mr. Crane has the sympathy of his many friends on the loss of his little son, Everett A., aged four and a half years. Mr. D. C. Shaw has been appointed night manager. Mr. Austin having concluded that his health will not again permit him to resume his duties. Mr. James Malone has been appointed chief, and is much liked by the operators. Jim is an old time operator, and deserves the promotion. Manager Rivermore is now being kept very busy on telephone work. The *Exchange* has a very large number of subscribers, considering the time since it was introduced into the city. Mr. Farnham, formerly operator at Wiscasset, is in charge. Mr. E. B. Saylor has been assigned to the Boston duplex. Our only addition for some time past is Mr. T. J. Clifford, of Lewiston, Me., who takes the vacancy occasioned by Mr. Austin retiring. Business is holding up amazingly well for so late in the season. The American Union is expected to come to Portland very early in the spring.

C. G.

MARRIAGES.

McPHERSON-SMITH.—Nov. 5th, at the residence of the bride's parents, near Parkersburg, Iowa, Mr. L. S. McPherson, of the Western Union office at Keokuk, to Miss Sarah A. Smith.

Oct. 20th, at the residence of the bride's sister in Richmond, Va., by the Rev. W. E. Hatcher, Mr. Samuel M. Hotze, operator A. & F. and R. F. & P. R. Rs., to Miss M. Lowry, of Richmond, Va. No cards.

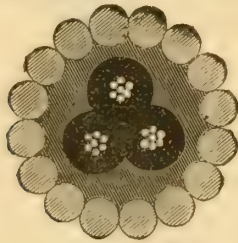
LEWIS-VEIRS.—November 16, at the residence of the bride's parents, in Fontanelle, Ia., by the Rev. Chas. L. Nye, D. E. Lewis, manager of the W. U. office at Fontanelle, to Miss Kate Veirs.

BIRTHS.

BARBER.—Nov. 26.—To F. C. Barber, manager, W. U. Telegraph, Leoni, Mich., a daughter.

THE BISHOP Gutta-Percha Works,

Original and only Manufacturer in the U. S. of
Pure Gutta-Percha Goods,
422, 424, 426 E. 25th St., New York.



Established in 1847.

S. BISHOP, - - - Proprietor

of the BISHOP GUTTA-PERCHA WORKS, begs leave to announce the acquisition of the exclusive right within the United States and the Territories thereof, to manufacture and sell Gutta-Percha Covered Wires of every description, under Letters Patent of the United States (No. 65,019), dated May 21, 1867, granted to Geo. B. Simpson, now owned by Clinton G. Colgate, for the use of Gutta Percha as a covering or insulator of wires for atmospheric or submarine telegraphic communications or for other electrical purposes, the validity of said Patent having been established by a decree made by the Circuit Court of the United States, held in the City of New York, dated Dec. 8, 1878.

The *Insulating Properties of Gutta-Percha* for Submarine Telegraphic Cables have been thoroughly tested for the past thirty years, and for subterranean purposes after many tests in Europe, and a continuous use in this country for seventeen years, its superiority is conceded over all other insulating materials and compounds.

Submarine Telegraph Cables, 50 varieties, one to ten conductors.

Submarine Telegraph Canal Cables—any number of conductors.

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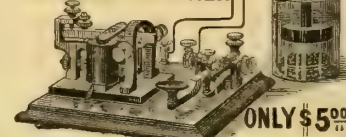
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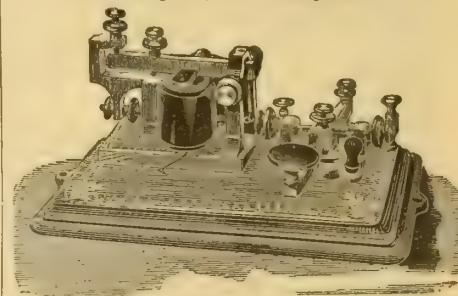
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VOL. X.—No. 24.

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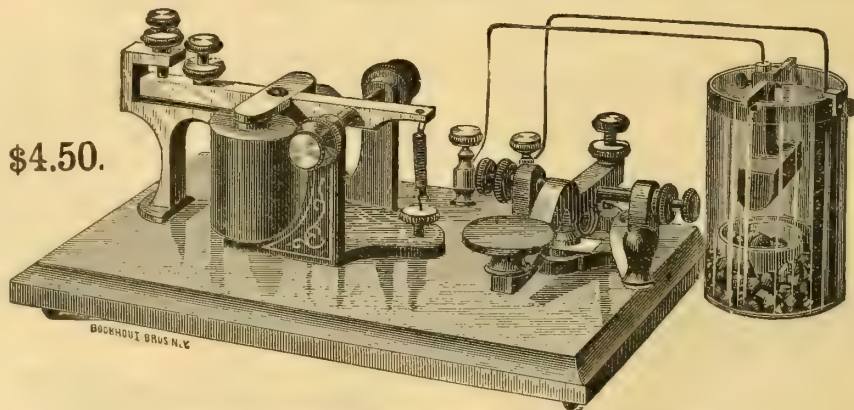
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THE OPERATOR A JOURNAL OF SCIENTIFIC & PRACTICAL TELEGRAPHY

December 15th, 1879.

Volume X.

Whole No. 149.

Christmas.

What hallowed memories cling around
That word to childhood dear;
Blest name! At thought of thee, a sound
Of far off bells I hear.
A floating, merry, happy thine,
Borne softly on the breeze
In rhythmic cadence keeping time,
Like lapse of quiet seas.

As often as its eve returns
We, children old and gray,
Draw round when low the fire burns,
And shifting shadows play.
Upon the walls, with lamps turned low
And, gazing in the fire,
Call up the scenes of long ago—
Of early, fond desire.

The Present, with its smack of new,
Melts like dissolving clouds,
The loved and lost come back to view
The old scenes throng in crowd.
The grate, so small, and mean, and black,
Grows to a fireplace wide,
With generous logs against its back
Ablaze from side to side.

The narrow walls in which we now
Drag out our selfish days,
Expand and lift like magic show,
As Recollection strays.
Through half-forgotten, dim-lit halls,
And lifts to light once more,
The pictures turned against the walls—
The fireside scenes of yore.

The wide, old room, the burnished floor,
The straight-backed kitchen chairs,
The well worn wheel—long used no more—
The ladder-way "up stairs,"
The "stand" on which the lamp was placed,
That iron lamp so queer,
Like nothing else that ever graced
The heavens above, or here.

And gathered round that fireside bright,
Dear ones, gone long ago,
Reflect from face to face the light
Of eyes with love aglow.
Father and mother sit apart,
The children range between,
Joined in affection heart to heart,
A living, loving chain.

Hung round the teeming chimney-piece,
The stockings placed with care,
With open mouths await Old Kris
With Christmas presents rare.
At nine o'clock to bed we hied,
To talk, lay plans and schemes
Of next day's joys; nor laid aside
Our happiness in dreams.

The vision fades. The Past is gone.
The shadowy faces flit.
Beside the dying fire alone,
A care worn man I sit.
No stocking for my gifts to-night
Hangs there beneath the shelf,
As, by the fading, ghostly light,
I commune with myself.

God help us all! Our childhood past,
What have we left but cures?
Our joys lie forward in the vast
To-morrow with our prayers.
Nay, selfish soul! thou art not wise,
Blessings are *always* here.
If thou but lift thy tar-dimmed eyes,
God's gifts are everywhere.

LUDLOW GROVE, O., December 25, 1875.

SUMAC.

A novel use has been found for telegraph poles in China. The mandarins or public officers of that country embellish them with the heads of decapitated highway robbers, as a warning to evil-doers.

The President's Stolen Message.

Last year, Mr. W. P. Phillips, then newly appointed agent of the Associated Press at Washington, succeeded in securing advance copies of the President's Message in season for mailing, so that it was simultaneously delivered at all points upon telegraphic notification that it had been presented to Congress.

The arrangement was speedily effected, on Mr. Phillips' arrival in Washington, and, although, on account of its many dangers, this plan of distribution had been abandoned, and not tried before in sixteen years, it on this occasion proved a success, and the document was laid before the people in the best possible shape.

Mr. Phillips was congratulated on the achievement, and, though fearful that if he attempted it a second time, and it became known in advance that copies were being printed for him, some enterprising printer would "leak" a copy, he went quietly to work and arranged his plans for this year. But he was not without misgivings, and when, as will eventually appear, a surreptitiously obtained copy was offered for sale, he was at once on the scent of it.

The day before the existence of the stolen copy was made known, however, Mr. Phillips mailed more than four hundred copies of the Message to Western Union managers with directions not to break the seal until instructed to do so by telegraph on Monday, Dec. 1st. These copies, which were sent to one hundred and seventy-nine points, bounded by Leadville, Col., San Antonio, Tex., and Portland, Me., were conveyed by carriage from the White House to the post office late on Wednesday night, November 25th, and were started on their way by the first mail next morning. And, in spite of all the pressure that was brought to bear, no manager broke faith.

Meantime the printing office thief had also laid his plans, and bright and early Friday morning he communicated to "Newspaper Row," through a young man named Cliff Warden, that the Associated Press was pledged to the President not to use his message until Monday, and that any combination of newspapers which would pay him fifteen hundred dollars could have the exclusive use of his stolen copy for publication as soon as the money was up. Messrs MacBride, Crawford, and Carson raised a pretty large pool during the day, got the paper into their possession, and devoted the night and most of Saturday to "convincing" their associates that it was all humbug—that the Message was not out at all. They played this very fine—so fine, in fact, that nine out of ten of the correspondents went home entirely satisfied in their own minds that the story was utterly without foundation.

The whole business was very skillfully managed by the correspondents named. The Message was not filed in the regular way. A room was taken at the Ebbitt House on Saturday night, and one of the Western Union managers sent for. The precious document was then intrusted to him, with instructions not to let any one know he had it, and above all, not to let the Associated Press know that it was going, as they feared that the President would consent, in view of a restricted publication being imminent, to its being given out generally, which would turn their victory into defeat. The gentleman in question hastened back to the office, put the Message on several wires, and returned it two hours later to the conspirators, by whom it was burned, as the trio drank a whiskey sour over its ashes.

However well they hoodwinked their brethren of "Newspaper Row," these worthies found their match in the Associated Press agent. At eleven o'clock he was able to inform the President that the Message was being sent out of Washington, and, being refused permission to order it out of the hands of the Western Union managers, he returned to his office, and sent the following dispatch:

"It was rumored early to-day that the same parties by whom Secretary Sherman's report was offered for sale yesterday had a copy of the President's Message, which, it was announced, could be obtained on the payment of a somewhat exorbitant

price. It is conceded that a purchase of the Message has been effected and it is almost absolutely certain that it will be printed to-morrow morning. A representative of the Associated Press waited on President Hayes this evening and asked, in view of the probabilities that a restricted publication of the Message was imminent, for authority to send it to all points. The President, while regretting that a surreptitious publication was threatened, said that his duty in the matter was clear; that his annual messages were addressed to Congress, and he could not, in any circumstances, countenance a course which contemplated a premature publication."

The receipt of the above by the Associated Press papers in various cities created a panic, and night editors telegraphed their special correspondents all sorts of insane queries; asking them what they proposed to do, and no end of other silly questions. The telegrams reached most of them at their homes. Some would not deign to respond; others replied that the Associated Press man must be crazy, and so on. Day by day, the story comes out more and more fully, and it is very funny. "Newspaper Row" has not seen such a "beat" in ten years, and it will not soon see another of equal proportions, for it cannot be expected that the President will again permit his message to leave his personal custody until he is willing to have it published. Telegraphers may therefore expect to renew their acquaintance, next December, with those cabalistic symbols: "D D 21," "Q Q 16," "B B B 1," etc., etc.

Capital Punishment by Electricity.

The question of executing condemned criminals by means of electricity is again attracting attention. Some scientific professors think that it would be difficult to use electricity with any practical effect; but others think that an apparatus occupying the space of a small trunk could discharge electricity enough to kill more men at one shock than have ever been hung in company in this country. According to Professors Tyndall and Helmholtz, nerve sensations travel at one-tenth the velocity of sound, and it requires one-tenth of a second for the brain to feel a sensation. For that reason, a rifle-ball, traveling at the rate of one foot in one-thousandth of a second and penetrating the brain, would kill before the telegraphic message announcing the injury had arrived. Hence, men are found dead on the battlefield in the act of biting off cartridges or ramming home a charge. The electric discharge moves one hundred times faster than a rifle ball. In one of his experiments, Professor Tyndall accidentally touched a battery of fifteen Leyden jars. "Life," he says, "was absolutely blotted out for a very sensible interval without a trace of pain; there can be no doubt that a person struck dead by lightning has no consciousness of the process."

At the Stevens Institute, in Hoboken, there is a coil which yields sparks nearly two feet long, penetrating glass blocks three inches in thickness; and in London there is a coil giving miniature lightning flashes two feet and a half long.

Dr. George M. Beard, well known by his studies in electricity as applied to nervous diseases, says that he has thought much on the subject for years and believed that the time will come when such a method of execution will be employed. A man killed by lightning never knows what he dies of, and should we succeed in obtaining an electrical apparatus of sufficient power, and one that could be readily and unerringly controlled, this style of execution, Dr. Beard thinks, would prove the most delicate possible, while inspiring in the multitude a much greater degree of awe and reverence for the law. A man killed by lightning can have no sensation, for in the small fraction of an instant he is as though he had never been.

In order to determine just what sort of apparatus, and how large and powerful, it may be needed for the purpose in view, experiments on animals would be necessary. These could be made under the control of competent experts, and it is not thought that there would be any insuperable difficulty to surmount. No electrician or neurologist could be able to state, without experiments, just how powerful a battery would be needed. One

thing is sure, and that is that a wide margin of reserve power should be made in any apparatus for this object. Individuals very wonderfully in their conductivity to electricity and in their toleration of it. This is constantly illustrated. Different people act differently when struck by lightning.

There has lately been a case reported in England where a man was struck by lightning, and his clothing, down to his boots, entirely stripped from his body, and yet he was not killed; but, more singular still, his nervous system sustained no shock. In this case, the electro-conductivity of the person was very likely not so good as the average, else he would have been killed. Facts of this kind suggest that we must have apparatus of great and reserved power if we would make sure of killing all those whom the law may condemn to death. The different electro-conductivity of different persons is illustrated by the familiar experiment of lighting the gas with the finger. In houses that are built on rock or soil that conducts well, if oneslides a little distance across the carpet with slippers on, frictional electricity is excited, which is conducted through the body, and lights the gas. Some persons can do this easily and surely. Others, under the same circumstances, rarely or never succeed.

The brain is the most sensitive part of the body to electricity, and the quickest way to kill a man would be to send the electric shock from right to left of his head. A very feeble current, such as is used in medicine, will cause dizziness when applied in this way.

As a conductor, a man's body rates very low. It is because it resists electricity that physiological and curative effects are produced by electricity passing through it. It is the resistance which the body interposes to electricity that makes it possible to kill persons by it.

Two Thousand Miles More Line for the American Union.

Superintendent Dickey furnishes the information that the American Union Telegraph Company have, within a few days, completed the purchase of what is left of the old Great Western Telegraph Company's property, covering from 1,500 to 2,000 miles of territory in Kansas, Nebraska, Missouri, Iowa, Illinois, and Wisconsin. They put a force of men at work immediately, and expect to have the old lines repaired and ready for business within sixty days. This will enable the new company to reach many points this winter which otherwise would be left until spring. The line is already constructed from Chicago to Milwaukee, Chicago to Monmouth, Chicago to Springfield, Bloomington to Decatur, Joliet to Princeton, Geneseo to Cambridge, Princeton to Peoria and Pekin, Wyanette to Rock Island, Rock Island to Omaha, Omaha to Kansas City (via Lincoln, Nebraska City and St. Joseph), Kansas City to Topeka, Lawrence to Ottawa, Nebraska City to Seward; and besides, the old company has 291 miles of poles up without wires, making a total of 1,890 miles of telegraph line. There is also a Hamburg and St. Joe. branch.

This Great Western Telegraph Company was one of the wild-cat schemes of twelve years ago, and numbers among its stockholders several of the solid men of Omaha. It has been a bankrupt concern since about 1871, and was recently sold to satisfy old long-standing claims. For some time it has been in the hands of a receiver, who made the arrangement whereby the American Union came into its possession. The claims satisfied by this change are not all that stand against the company, and a short time since the stockholders were informed that they must pay the balance or stand suit.

In 1871, when the company ceased to operate the line, it was operated under a lease by the A. & P. In 1874 the Western Union secured possession, under an arrangement in which they agreed to keep the wires in repair for their use. They held control until within a few weeks, when it went into the hands of a receiver, and now is owned by the American Union.

The new company will make the old lines first-class. They will double the number of poles, which are now placed one-sixteenth of a mile apart, and replace the worn-out ones, and will put cross-bars upon the same, so that a sufficient number of wires can be placed thereon to accommodate their business.

In addition to this important acquisition to their telegraphic facilities, they will immediately construct a line from Grinnell, Iowa, along side of the Iowa Central Railroad to St. Paul and Minneapolis, thus reaching nearly every portion of our country and Canada by their own line, and connecting with the new French cable, so that they will possess abundant facilities for doing their share of the business of the country.

This scheme was an immense one at the outset, and the remarkable rapidity with which it has placed itself in a position to be a formidable rival of the great Western Union is another mark of the energy and enterprise of Yankee capital; for be it known that American capital has accomplished this mammoth undertaking.—*Omaha Republican.*

After the above purchase had been made, all the lines owned by the Great Western Company were turned over to the American Union, except one; that running from Chicago to Omaha and Kansas City, by way of Rock Island and Davenport. This the Western Union held until the sum of \$10,700, expended in repairs, should be paid. The new company brought suit against the Western Union to obtain possession of this line, and offered to deposit the amount in court when it was put in possession of the line. The receiver of the Great Western Company claims that the Western Union owes him damages for not keeping the lines in repair. When the case came up for trial, Judge Barnum decided that the Western Union could not retain possession of the lines. He therefore made an order directing that company to surrender possession, on the receiver depositing \$10,700 in court to meet any claim which the Western Union might bring. An accounting was also ordered.

Wabash Ahoy!

We occasionally meet with a man who is anxious to distinguish himself in some way or other, but, being a vessel of exceedingly light tonnage, and drawing but little water, is incapable of a brilliant effort, and consequently has recourse to petty toadyism. It is an evident fact that "Wabash" belongs to this class. His article has a decided ring of the "saw" that Werner tells us of, and is decidedly "thinner" than that valuable implement, and, as the saw cuts the inanimate pole, so does the "bleat" of Wabash cut the feelings of "those in the business who look upon it in quite a different light."

Donning the prophet's veil, he causes the craft to quake by predicting that eventually the new company "will take full rank as second fiddle," and then disputes figures by stating emphatically that "the W. U. does the telegraphing cheap; yea, too cheap." As far as the second fiddle statement is concerned, it is only safe to say that if the new company ever should degenerate in the orchestral status, such as "Wabash" will undoubtedly be found scratching the feline intestine upon the very smallest little fiddles that will constantly emit the notes, "down with competition." The "cheap" assertion has undoubtedly become a form of speech with "Wabash," acquired by a previous connection with some establishment where old clothes have been sold "too cheap, sho help me g-racious!"

Then he draws in a supply of air and asks: "Who is it says the rates are too high?" Oh! about forty millions of deluded wretches who are so unreasonable as to think for themselves. "They look upon it in quite a different light," so to speak, from "Wabash," and consequently in that worthy's opinion are incapable of an enlightened judgment; vulgar-hearted creatures who cannot conceive that a monopoly that has grown so avaricious and grasping would at once increase the salaries of "those who slave day and night," etc., if the before mentioned "deluded," would only consent to higher tariffs.

"The way to crowd the Western Union for the general good (applause) is to protest against any further insane reduction of rates (cheers) and advocate higher (sensation in the galleries), to the end that it may receive something like compensation for the service, or the part charged for (consternation in the executive board) that it renders and be enabled to remunerate its employes (wails from the employes!)

Oh, the poor, oppressed, down-trodden, cheated, defrauded, liberal, kind-hearted, water-stocked, bumble servant of the "vulgar-hearted" people—the Western Union! After going through with his wail of sympathy and howling until he is hoarse, "Wabash" says that he will omit certain statistics for the present; that is, that he will refrain temporarily from "heaping compost on the weeds to make them ranker."

WABASH.—"Most ignorant of what he's most assured, His glazy eyes, when angry are,
Plays such fantastic tricks before high Heaven,
As make the angels weep."

Next:

ALPHA.

After mature deliberation, and several perusals of the article by "Wabash," I am forced to one of two conclusions, viz: that he is either laboring under an attack of mild lunacy, caused by "Wabash" shakes, which Wabash corn juice fails to "break," or that he is a consummate ass. I think a large majority of "intelligent operators" will acquit him of both the lunacy and "shakes." His entire article is such a conglomeration of absurdities that one hardly knows what part of it to notice first. It really appears as if it were written for the purpose of seeing what replies it would call forth, or by some W. U. official who has not the "sand" to enter the ranks of the "Saw Brigade." I don't for an instant make any claims as to financial ability or acuteness, but the remarks of "Wabash" plainly indicate that he is, and has been for years, stationed on some side track in the swamps on the river whose name he borrows. Less than a month ago I was conversing with a prominent merchant in a Western city, who is also president of an extensive manufactory in Massachusetts. He told me that, if rates were reduced to a uniform tariff of 25 cents, he would send fifty messages where he now sends one; and this is the case with nine-tenths of the largest and smallest business houses in the land. In proportion as rates are reasonably reduced, the amount of business will increase, and with it a demand for operators. It is evident that "Wabash" has not seen the last official report of the W. U., where their own figures show a clear profit of over \$4,000,000 for the last year. This is what most people would call receiving "something like compensation for service rendered." I is a case that calls for much sympathy from us in behalf of the W. U., that they can only clear \$4,000,000 per annum, and I really think "Wabash" ought to start and head a subscription among operators for the relief of this suffering company. No doubt every operator in the service would respond to the tune of \$5 or \$10—in his mind. Referring to the "intelligent operators from the Rio Grande to the St. Lawrence," I would like to have them counter-question their customers, and see if it does not bring out the reply that they would spend more money at cheaper rates than they now do. I will wager a month's salary with "Wabash" that I get one hundred replies to his one indorsing my theory. But enough from me on this subject. "Rush" him a little, boys, as our worthy editor has so ably done.

I wish to add just a few words more on the student question. I notice with pleasure that at least one convert has been added to the "No Student Corps," and trust that many more are under conviction. Speak out, brothers. You will receive encouragement on all sides. The issue of November 15th has an excellent editorial on this subject, and is a capital number in other respects. The editorials are always good, and prove conclusively that THE OPERATOR is a staunch friend to us, and we ought to support it. If present subscribers would speak of the paper to those on their circuit, and lend or give them specimen copies, much good might be done. The spicy articles by "Werner" are always worth a year's

subscription. From the fact that THE OPERATOR considers my poor efforts worthy a place in its columns, I have no doubt that a presentation of ideas relative to the interests of the fraternity will be favorably received from any and all.

ELLIOTT.

On the Wrong Wire.

Many a laughable joke has been played by switching in on a wire, and sending "press" by the column—out of a newspaper—to an unsuspecting young man in the same office; or by surreptitiously "bursting in," and carrying on a conversation with somebody, who, in the simplicity of his heart, imagined that he was talking to Miss Blank of Xy office.

It seems that the operators at the central offices of our telephone exchanges are in excellent positions to play little games of this kind, and that they occasionally do, though, of course, unintentionally.

Not long since a gentleman in Toledo desired to communicate with his wife, who was visiting her brother in Wyandotte. He called the central office as usual, and requested that he be connected with his brother-in-law's office in Wyandotte. The central office answered back all right, but instead of switching in the Wyandotte office, he made a mistake, and connected the gentleman's wire with a tug office. Now it so happened that a maine reporter had been communicating with that same tug office, and had left the instrument for a moment, the man in the tug office waiting the meanwhile with his ear at the tube.

"Helloa, helloa!" called the gentleman, giving the usual salutation.

"All right, go ahead," answered the voice, supposed to come from Wyandotte.

"How's Mary?"

It should here be explained that "Mary" is the name of the gentleman's wife, a sweet little lady whom he frequently nicknamed "The Midget." And it should be further understood that "Mary" is the name of many a schooner that sails the lakes and straits, and that a certain tug is known as "The Midget." Hence the answer from the tug office.

"She foundered in the gale last night, near Burch's Crossing."

"Great heavens! Foundered?"

"Yes; she's all going to pieces."

"All going to pieces? What on earth do you mean? Who are you?"

The man in the tug office gave his name, and the gentleman, thinking he had been talking to one of his brother-in-law's clerks, said:

"Well, I want to talk with Fred."

Of course there happened to be a gentleman in the tug office who responded to the name of "Fred;" he was at the instrument at once, with:

"Well, what is it?"

"Say, Fred, what the deuce does that chap mean by saying Mary has foundered?"

"Why, she has. She had her rigging all torn away last night, and will probably go to the bottom."

"Now, Fred, see here. I want you to tell me honestly, is there anything the matter with 'The Midget'?"

"The Midget? No; I guess not. She left this morning with three or four schooners and John Barnes in tow."

Now, the gentleman, was well aware that on one or two occasions, yielding to his own invitation, his wife had indulged in a small glass of beer, but schooners—never, and he instantly replied back:

"What do you mean by telling me that my wife is drinking lager, and has run away with John Barnes? S-a-y!"

This led to an investigation at the tug office; the central office of the Telephone Exchange was rung up, the mistake discovered, and Wyandotte switched in.

The Metropolis and Vienna Telegraph Company has been organized in Illinois. The purpose of the company is to build a line of telegraph from Metropolis, Massac County, to Vienna, Johnson Co. The capital is \$15,000.

Mr. Gould.

Jay Gould, the principal stockholder of the new company, who bears the same relation to the American Union that Mr. Vanderbilt does to the Western Union, is a man of immense wealth, being worth, it is said, \$65,000,000. He owns a controlling interest in several important railroads, and has lately added several new ones to the list, especially in Kansas, in which State he controls 1,500 miles of railroad, or half the mileage of the State. The St. Louis *Republican* says: "Mr. Gould's millions now crowd close to those of Vanderbilt. He is a man of finer texture than the old Commodore's son. He doesn't run to fine houses, costly stables and blooded steeds. At night, when he dismisses his operators from the telegraph offices in his own house in Fifth Avenue, and enters up in a little book the telegraphic reports of the receipts of the various railroads which he owns, he does not go to a club to carouse, to a banquet to steam up with champagne, or to a theatre; he retires to the recesses of a peaceful library, and, with his young sons about him, reads the Latin classics, the world forgetting, but not by the world forgot—by a large majority. The next morning early he has the telegraph doing lightning service, and he is sending an electric shock through Wall Street as soon as the bulls and the bears come into that field for pasture. Mr. Gould is a liberal man, although when he makes a bequest, he does not have the information written in manifold, and sent to all the newspapers. The first news New York had of his gift to the Memphis sufferers of \$5,000 came from Memphis, as did the news of the second gift of \$5,000. Mr. Gould being a small man, of little physical prowess, is naturally not disposed to put himself recklessly in the way of the horns of the bulls, and the claws of the bears. There are some men in Wall Street, as Mr. Gould has reason to know, who wish to resent their losses with their fists, and are disposed to follow Major Selover's example, and despatch him bodily down into a convenient area. Accordingly, Mr. Gould keeps his office guarded by a stout Irishman, who prevents the intrusion of visitors, and he has usually a private way to get out into the street. He has, too, it is said, a big Italian bookkeeper who accompanies him on many of his business trips about town, and stands ready to protect his millionaire employer."

"Cordoba" Again.

Seven years ago a Spaniard, giving his name as Joseph Cordoba, made such plausible representations to Mr. B. C. Wilkins, in this city, that the latter accommodated the Spaniard with a sum of money, the man stating that his father was a wealthy wine merchant at Los Angeles, Cal., that he had a sum of money awaiting him at Quincy, and that, on his arrival at Cedar Rapids, he could obtain an identification, and get the money by telegraph. Ben subsequently found the whole story to be a fabrication, and since then has frequently heard of this suave dead beat in various parts of the country, his name, story, and other means taken to obtain money being everywhere similar. He was fully exposed at Fond du Lac and elsewhere, and is said to have beaten many a telegraph operator in Wisconsin out of sums of varying size.

A few nights ago this same man called at the Western Union Telegraph office in this city, and was at once recognized by Mr. Wilkins, who thought the man would play some game here, when he could be arrested. The next day Ben made a tour of the hotels, and sure enough Cordoba had been boarding a day or two at the Gerhardt, and had just departed to take a freight train for Illinois, leaving a Freeport drummer, whose confidence he had secured, to become responsible for the Spaniard's board, and taking \$8 kindly loaned him by the clerk of the house. This clerk and Ben "put for the train," and found the Spaniard coolly smoking a cigar on the caboose, just ready to start. He was suddenly nabbed by our two heroes, and amid his protestations was forced to return to the Gerhardt. Arriving there, he refunded to the clerk his eight dollars, and after a vain attempt at denial, broke down, and confessed the truth of the charges as to his being a dead beat and swindler. He left a fine overcoat to pay his board bill and partially remunerate Mr. Wilkins for his former loss, and was then allowed to wipe away the crocodile tears he had pretended for two hours to shed copiously, and to depart from the city. Other communities are hereby warned against him.—*Clinton (Iowa) Herald.*

Dashes Here and There.

The Liverpool (England) Town Council has appropriated \$3,000 for electric lighting purposes.

Kisses by telephone taste like a boiled China egg on toast.—*New York Commercial Advertiser.* Should still think they'd tel-of-honied tasters, though.—*Philadelphia Bulletin.*

An exhibition was lately given in Paris of a method of employing electro-magnetism as a means of subduing vicious horses. With bits, bridles, nose bands, and curbs specially constructed so as to apply a gentle current from a portable electro-magnet to the required place, seven particularly violent horses were reduced to obedience, and suffered themselves to be shod.

Mr. J. G. Chassé, of Quebec, has invented an improvement to the telegraph, by which several dispatches from different points can be sent to the same place at the same time on the same wire, thus making a great saving in wire. A message from Hartford to New York could not be known at any of the offices between the two points. Mr. Chassé will soon give an exhibition in Hartford, showing the advantages of his invention.—*Hartford Times.*

"The Marvels of the Telephone" has become almost a standing head-line in the newspapers. The latest achievement is a Sunday conversation carried on between Albany and Syracuse—distance 148 miles. Next Sunday it is proposed to have a connection made with Rochester, and perhaps Buffalo. The selection of Sunday for telephone tests is because on that day other business does not interrupt or interfere with such experiments. It is found that on these long circuits the direct wire works much better than the connections; but this difficulty will doubtless be overcome.—*Hartford Times.*

All the fish in a small fish-pont at Seck, Duchy of Nassau, were recently killed by a flash of lightning. The *Nassauer Bote* states that during a very heavy thunder and hail storm at night time, a flash of lightning struck a small pond, well stocked with various kinds of fish, the property of the pastor of the parish. The following morning the whole of the fish were discovered dead upon the surface of the water. They had all the appearance of having been half boiled, and crumbled to pieces at the least touch, just as is the case with fish after being boiled. Neither any external or internal injury could be observed, the scales being intact and the swimming bladder filled and well preserved. The water in the pond was still muddy and dull the morning after the storm, as if the lightning had only then struck it.

An ingenious and simple apparatus for making a bell ring at any predetermined hour of the day is described in a recent number of *L'Electricité*. It comprises a lens by means of which the solar rays are concentrated and directed on a metallic strip, which is susceptible of very rapid and great dilatation. The result of the dilatation is electric contact, giving passage to a battery current which rings the bell. Although the sun may be covered by clouds, its calorific power is never diminished so much as not to dilate the strip. "It would be interesting," says M. Desmarest, who describes it, "to know what the action of the moon would be, through a lens of high magnifying power, on a very sensitive strip. The apparatus would, perhaps, too, be susceptible of graduation with a view to studying the radiating power of the sun."

Two young men got on a spree at Cameron, Mo. recently, and the Marshall, H. C. Culver, in trying to arrest them, was snoot and killed. Bring a good and popular officer there was considerable talk of lynching the murderers, but by good management the sheriff succeeded in lodging them in jail at Plattsburg. The next day some fruit tree men, in passing through Cameron, registered at the hotel as Jesse James, and several other fictitious names, and inquired the way to Plattsburg. The Justice at Cameron immediately telegraphed to Plattsburg that they would make an attempt to rescue the "boys." The sheriff put a strong guard on the jail all night, but, of course, nothing happened. But the second night after that a "smart" drug-store man forged a message to the sheriff that a large force would be at Plattsburg that night sure; to be ready with a strong guard, and signed the name of the Justice of the Peace at Cameron. It kept the whole town up all night, but they are going to have the young man tried on the charge of forgery.

W. M. C.

THE OPERATOR

A JOURNAL OF
SCIENTIFIC & PRACTICAL TELEGRAPHY.

W. J. JOHNSTON, Editor and Publisher.

December 15th, 1879.

WESTERN UNION stock was quoted at 109½ before the announcement of the dividend. It has since fallen to 106½. A. & P. is quoted at 45.

A DISPATCH from Halifax N. S. says that the new French Atlantic cable was landed at Big Lorraine, two miles east of Louisbourg, Cape Breton Island, at noon December 6th.

A CABLE dispatch from Liverpool states that the Inman steamship City of Berlin has been fitted with an electric light. If the experiment proves a success it is promised that all the Inman steamers will be supplied with these lights.

THE regular quarterly dividend of ¼ per cent. was declared by the Atlantic and Pacific Telegraph Company at a meeting of directors on Tuesday. An additional dividend of ¼ per cent. was also declared, making one per cent in all.

IN view of the large increase of cable business which is expected when the 12½ cent rate goes into effect, the Direct Cable Company, in addition to a new office in Boston and an additional branch office in New York, has opened a new branch receiving office at the general offices of the company in London.

If every person using the Telegrapher's New Year's Cards will abstain from all kinds of intoxicating liquors on the 1st of January, they will be more respected by those they visit, enjoy themselves better, and be better satisfied with themselves afterward. Should the abstinence continue throughout the new year of 1880, the above advantages will be apparent in a marked degree.

THE Bell Telephone Company of New Jersey has been incorporated with a capital of \$5,000,000, in shares of \$10 each. The shareholders are John D. Harrison, of Newark, 400 shares; Amize S. Dodd, New York; Theo. N. Vail, Boston; Henry G. Pearson, New York; George M. Harrison, Newark, and Wm. H. Woolverton, Philadelphia. The latter take each ten shares. The office of the company is at Jersey City.

ALTHOUGH sold at so low a price, the "Messengers' New Year's Greeting" for 1880 has been gotten up in a remarkably neat and tasteful manner. It contains four pages, is printed in blue, and looks very pretty. We are too busy to send any more samples of the Greeting or the cards; but, we think, messengers can rest assured that they have never seen any handsomer address than this is. The Greetings are suitable for any messenger, either in Canada or the United States, and no matter what Company he is employed by. Orders should be sent in as early as convenient. The messengers of Evansville, after seeing sample of the Greeting, ordered 2,500 copies.

The Western Union Reducing Rates.

It would seem as if the Western Union contemplated a change of tactics in dealing with its new rival. Hitherto it has been content to reduce rates after its competitors had led the way, but now we find it—several weeks before the American Union opens for business, and before that company has had time to say a word about rates—reducing the tariff for ten words between New York and St. Louis from 75 cents to 60 cents; New York and Chicago, Indianapolis, and Louisville, from 60 cents to 50 cents; and New York and Cincinnati from 50 cents to 40 cents.

It is announced that this reduction is due solely to the fact that a new No. 4 wire from New York to Chicago enables the company to dispense with repeaters at Buffalo, and for all telegraphic purposes brings Chicago as near to this city as Boston. It is also stated that a No. 4 wire is being erected to San Francisco, and so soon as it is completed a reduction to the Pacific Coast is promised. The Western Union has tested 18,000 miles of No. 4 wire the past year, and is so well pleased with it that it is now putting up 6,000 miles of it.

Few, of course, believe that this reduction is not due directly to the appearance of the new company in the field. It may be just possible that the Western Union, instead of its old-time policy of making reductions after they have been forced upon it by its rivals, will now try the effect of ruinous cutting of rates, in the hope of starving the American Union into consolidation or a pooling arrangement, thus abandoning the undertaking of establishing a rival line.

It will be remembered that this is what it did in the case of the Continental Company. The rate to Philadelphia when that company opened was 25 cents, but immediately the A. & P. offices in the vicinity of the Continental offices reduced their tariff between New York and Philadelphia to 10 cents, the rate from the Western Union, and all except a few of the A. & P. offices, remaining at 25 cents. The Continental charged 15 cents, but at this rate was unable to pay running expenses, and was glad, after failing to make terms with the American Union, to sell out to the Western Union, which it did, however, at a handsome profit to the stockholders and contractors of the Continental.

The present large net profits of the Western Union would be very much increased, were it not for the persistency with which rival lines spring up. The policy of the company is, and has been, to buy up all competing lines, after, however, doing all it can to disgust their projectors with the business and discourage others from following their example. It is often—indeed, nearly always—compelled to pay two or three times what the lines are actually worth, which it is willing to do in order to get rid of competitors.

Were the monopoly not a profitable one, it would neither be anxious nor able to do this; but if it can pay two or three prices for poor lines that it does not generally need, and enormous annual sums in the way of interest on the bonds of the companies it has absorbed, and to companies like the A. & P., merely to keep out of the field and let it have all the business, and still make \$500,000 a month in net profit, as it is doing at present, a new company, building new lines at one-third the cost of the Western Union's, unhampered by forced alliances with useless and poorly constructed lines, built for the express purpose of enriching

the contractors, ought to be able to transact business at a considerably lower rate, and yet make a fair return to its stockholders.

We hope, however, that neither company will inaugurate any general wholesale reduction of rates. The country is large enough for both of them, and each can get all the business it can do, even at the present rates. While it is, perhaps, in some degree natural for the Western Union to do what it can to prevent competition, it might just as well accept the inevitable now as at any time that it is an utter impossibility for it to retain the monopoly of the business for any length of time. No matter how many competing lines it may buy up—generally at exorbitant prices—more will inevitably rise to take their place.

Net Profits \$457,483 a Month.

The regular quarterly meeting of the Western Union Telegraph Company was held in this city on Wednesday, December 10th. The report of the Executive Committee shows that the net profits for the three months ending September 30th were \$1,372,449, being \$113,226 more than the estimate made at the last quarterly meeting. The net earnings for the three months ending December 31st inst. (reserving sufficient to meet the claims of the A. and P., under the "pooling" arrangement), are estimated at \$1,475,881, or nearly \$500,000 a month. A dividend of 1½ per cent. for the quarter ending September 30th was declared, and, in addition, an extra dividend of one per cent. out of the surplus funds in the treasury. Deducting both these dividends, a net surplus is left of nearly \$1,200,000.

That the company is able to pay dividends to the amount of 11 per cent. per annum would seem to indicate that its business is a paying one, notwithstanding the assertion of "Wabash" that the present tariff is entirely too low. In its prosperity one would imagine that the company might well afford to remember the men upon whom it depends for these gratifying results. Both business and net profits have been steadily increasing for several years, while during the same period the salaries of employes have as steadily decreased. It seems, however, to be useless to appeal to the Western Union for anything that the company is not absolutely obliged to give. We can only hope that as the new company extends its lines, and opens new offices from time to time, a demand will be occasioned for operators that will compel the Western Union to pay salaries in some degree commensurate to the duties performed.

Renew Your Subscription Promptly.

A large number of subscriptions expire with this issue. It is hoped that all—every one—will be promptly renewed for the coming year of 1880. There is no better possible manner of investing a dollar than in securing the regular semi-monthly visits of the only paper in America published in the interests of telegraphic employes. What THE OPERATOR has been in the past every present reader can testify to. They all know that it has been fearless and indefatigable in standing up for their rights; in attacking corruption in high places, and in defending them, so far as lay in its power, from injustice at the hands of those in authority over them. The steady improvement of the paper, even since the reduction in price, is a guarantee that our efforts in the future will be, as they have been in the past, to furnish "the

best telegraphic paper in the world for the least money." The subscription price of THE OPERATOR is now so low that telegraphers should no more think of getting along without it than they would without clothes or food. Send in your subscription for 1880, now while you think of it, that you may not miss a single copy. Every reader can secure one more name to send with his own, if he only wishes to. To every person sending one name in addition to his own, accompanied by \$2, we will send a pack of Telegraphers' New Year's Cards, with name, or a copy of "Oakum Pickings," as a present.

The Teaching of Students.

We occasionally receive communications that are never printed, owing to the fact that the writers fail to inclose their names and addresses. One of these, recently to hand, takes us severely to task for advocating the suspension of the manufacture of embryo-telegraphers. With our usual impartiality of giving both sides a hearing, we should probably have published the article, although our correspondent—who frankly acknowledges that he is neither an operator, nor in any way connected with the business—displays as dense an ignorance of the student question as did "Wabash," last issue, in regard to competition. Both are evidently young men of inordinate conceit, anxious to see the productions of their pens in print, and always ready to cry: "Let us Bray." The fact of the matter simply is, that so long as operators and telegraph colleges continue to swell the ranks of the unemployed by turning out, year after year, their quota of plugs, nothing short of a revolution in the business can effect any considerable permanent increase of operators' salaries. Here in New York, fifteen men recently resigned from the Western Union, and a number from the A. and P., both to enter the service of the American Union. The former companies, in view of the increased demand for operators, immediately advanced the salaries of a few of their employés, and it is understood that increases to others were contemplated. Such an avalanche of applications for positions poured in, however, from all directions, that both Manager Downer, of the Western Union, and Manager Hoff, of the A. and P., say they could have at once secured fifteen men for every position made vacant. This had the natural effect of putting a stop, at least for the present, to any movement looking to a general increase of operators' salaries, and so it will be until the present supply of telegraphic labor shall be considerably worked down, which will not, to all appearance, be for some time. If it were possible to stop from this day the further learning of students all over America, we have enough telegraphers in the country, without learning a single one more, to fill all the positions that will be vacant for several years. This is a subject that concerns, more than anything else, operators' salary, and if anything can be done to remedy the evil, by decreasing the number of students taught, those whose interest is at stake would do well to be up and doing.

We are sometimes unable to fill orders as promptly as we would like, owing to the persons ordering forgetting to add the State to their address. Not unfrequently, too, when they write to inquire why the goods were not sent, they take occasion to abuse us roundly for the inexcusable

delay. In ordering anything from New York the address should be given in full in every letter, and in doing business with a responsible house no unnecessary delay will then take place. If you order anything of or through us, and do not get it in a reasonable time, drop us a postal card, giving your full address each time, and write more than once if necessary. In sending a letter to us, see that the address is correct, even to the Post-office box and the State, and no cause for complaint will arise by reason of your letter going astray.

WHEN the suit of the American Union Telegraph Company against the Western Union Telegraph Company, Continental Telegraph Company, and others, reported at length in last issue of THE OPERATOR, came up for hearing before Judge Brady in the Supreme Court Chambers, a motion was made by counsel for the defense to have the case transferred to the federal courts. This would have the effect of delaying the case. Mr. David Dudley Field opposed the motion on behalf of the American Union, and asked for an adjournment pending a decision by the Court of Appeals of a case similar to the present. The further hearing was adjourned until December 17th.

General T. T. Eckert has resigned the presidency of the A. and P. Telegraph Company, to accept a similar position with the American Union. It will be remembered that General Eckert tendered his resignation some months ago, but the trustees, or directors, of the A. and P. induced him to withdraw it. The resignation, which has been accepted, is to take effect January 1st. Mr. A. B. Chandler is to be General Eckert's successor in the meantime, and will doubtless continue in that capacity. Mr. D. H. Bates will probably be appointed Vice-President and general manager of the American Union.

A DISPATCH from Montreal says that financial and stock circles have been very much agitated during the past two or three days over a strong combination that has been formed to control the Montreal telegraph stock at the coming annual meeting of the company on January 8. A majority of the outside shareholders are dissatisfied with the present management, and are combining to effect a radical change. The stock, which a short time ago was down to 87, yesterday sold at par.

As this is the last issue of THE OPERATOR for the year of our Lord 1879, we wish our readers, far and near, the compliments of the season. We hope they will all enjoy a very Merry Christmas and Happy New Year, and that 1880 may be fraught with blessings innumerable for us all. The telegraphic horizon is brighter than it was a year ago, and it is hoped that it will be brighter still before another new year comes around.

Those who shall be glad to purchase for our readers books, jewelry, or such other things as they may desire from the city for holiday presents. No charge will be made for the service, the goods being personally selected and furnished at lowest prices. State explicitly what you want, and remit about the amount you wish to pay, and the article or articles will be forwarded you at once by mail or express, as directed.

CHRISTMAS EVERGREENS, LIGHTNING FLASHES, or the OPERATOR one year makes a neat and appropriate holiday present.

Themes for the Thoughtful.

An active tool never grows rusty.

A gentle hand can lead an elephant by a hair.

Choose such pleasures as recreate much and cost little.

The only disadvantage of an honest heart is credulity.

Under our greatest troubles often lie our greatest treasures.

Industry needs not wish, and he that lives upon hope will die fasting.

Fill the world with good deeds and you will fill it with your own glory.

He that calls a man ungrateful sums up all the evils that a man can be guilty of.

As thrashing separates the wheat from the chaff, so does affliction purify virtue and honesty.

If we try to think more of others than we do of ourselves we shall seldom have a grievance.

The actions of men are like the index of a book; they point out what is most agreeable in them.

In grief, perform your duties, confine your sorrow to your chamber, and seek consolation from Heaven.

There is no man so friendless but that he can find a friend sincere enough to tell him disagreeable truths.

It is not so much what one does as what one tries to do, that makes the soul strong and fit for a noble career.

The man who can hold his tongue longest in controversy is the one who will come out successful in the end.

The column is an emblem of Faith, it springs from earth to Heaven; the arch symbolizes mercy—it descends from Heaven to earth.

Wisdom and truth, the offspring of the sky, are immortal; but cunning and deception, the meteors of the earth, after glittering for a moment must pass away.

Every man has his chain and his clog, only it is looser and lighter to one man than to another; and he is more at ease who takes it up than he who drags it.

Our conscience is a fire within us, and our sins are the fuel; instead of warming, it will scorch us unless the fuel be removed, or the heat of it allayed by penitential tears.

The gaiety of the wicked is like the flowery surface of Mount Etna, beneath which materials are gathering for an eruption that will one day reduce all its beauties to ruin and desolation.

The roses of pleasure seldom last long enough to adorn the brow of him that plucks them, and they are the only roses which do not retain their sweetness after they have lost their beauty.

He that embarks in the voyage of life will always wish to advance rather by the impulse of the mind than the strokes of the oar, and many founder in the passage while they lay waiting for the gale.

The web of our life is of a mingled yarn, good and ill together; our virtues would be proud if our faults whipped them not, and our crimes would despair if they were not cherished by our virtues.

The Christian graces are like perfumes, the more they are pressed the sweeter they smell; like stars that shine brightest in the dark; like trees which, the more they are shaken, the deeper root they take, and the more fruit they bear.

When the summer of youth is slowly wasting away on the nightfall of age, and the shadow of the path becomes deeper and life wears to its close, it is pleasant to look through the vista of time upon the sorrows and felicities of our early years. If we have had a home to shelter, and hearts to rejoice with us, and friends have gathered round our fireside, the rough places of wayfaring will have been worn and smoothed away in the twilight of life, and many dark spots we have passed through will grow brighter and more beautiful. Happy, indeed, are those whose intercourse with the world hasn't changed the tone of their holier feelings, or broken those musical chords of the heart whose vibrations are so melodious, so tender, and so touching in the evening of their lives.

Inside View of the Telegraph War in New Jersey.

A little, eight-page pamphlet has been issued by the American Union Telegraph Company, intended principally for distribution along its line through New Jersey, and giving a "statement of facts in relation to telegraph lines in New Jersey," and a brief summary of the causes leading to the telegraph controversy in that State. It says:

The Western Union Telegraph Company's line through New Jersey, from New York to Philadelphia, has been, as is well known, a completed and working line of telegraph for very many years. The Continental Telegraph Company (in N. J. known as the New Jersey & New England Telegraph Company) built its line through New Jersey, from New York to Philadelphia, in 1877, and in 1878 it was regularly opened for business, and has since been a working line.

The American Union Telegraph Company became a body corporate under the laws of the State of New Jersey, in June last (1879), and at once began the construction of its line of telegraph from the Hudson River, opposite New York city, to the Delaware River, opposite the city of Philadelphia, upon a route which would in no wise interfere with the practical working of the lines of either of the other before-mentioned companies, and nearly the whole distance upon entirely different public thoroughfares.

Upon the organization of the American Union Telegraph Company, the officers of the Continental Telegraph Company, who then controlled nearly all its stock, made overtures to the American Union Company for the sale and transfer of their line to it, holding said line at figures enormously high and unreasonable.

The original correspondence with the American Union Company attending this negotiation is still in its possession, and forms an interesting exhibit in the case, in the light of subsequent events.

The American Union Company failing to purchase their line, the officers of the Continental Company then sold it to the Western Union Company, by transferring a controlling interest in the stock, the officers personally entering into its employ, with the assigned duty (?) of hindering and obstructing, in every possible way, the construction of a line through New Jersey by the American Union Company. Their labors to this end have been, from time to time, mentioned in the public prints in reports of the cutting down in the dead of the night, and the wanton destruction, of portions of the line of the American Union Company in various parts of the State; and, while sufficient of their movements and work was known by the latter company to fully justify the assertion as to who were the criminals guilty of the outrages, yet the secrecy with which the work was done baffled for a time the obtaining of positive proof and identity. The efforts in this direction have, however, recently been rewarded by remarkable developments, and positive proof and sworn identity has caused the arrest of the secretary of the Continental Telegraph Company, and an organized gang of skillful workmen in that company's employ, who have been going from one part of the State to another and committing the criminal depredations mentioned. The secretary and gang have been fully identified by farmers and other citizens of Mercer, Middlesex, and Union counties, who have made affidavits thereto, as being the persons engaged in wantonly cutting down the poles and wires of the American Union Company in their respective counties at various times, the secretary of the Continental Company being personally present and assisting and superintending the work on each and every occasion. And the parties have been required in each of these counties to furnish bail for their appearance before the coming respective terms of the grand juries of the counties, to answer to the criminal charges against them.

Suit has been commenced against the Western Union Company for all damage thus far done to the property of the American Union Company. In this action, on the 20th day of November, Dr. Norvin Green, the president of the Western Union

Company, being compelled to state under oath whether the Western Union Company had at any time employed counsel in the State of New Jersey to hinder or prevent the construction of the lines of the American Union Company, made affidavit as follows: "Attorneys and counsel have never heretofore, been, nor are they now, employed in New Jersey, with my consent, or with the consent of the Western Union Telegraph Company, to hinder or prevent the construction of the telegraph line of the American Union Company in said State of New Jersey; except that, as representing a stock interest in the Continental Telegraph Company and the New Jersey & New England Telegraph Company, which are identified in interest, I have been consulted by the officers of those companies as to the employment of local counsel in the State of New Jersey by the companies, to advise as to the best lawful methods of protecting the right of way acquired by, and deemed important to the interests of, those companies, * * and, as representing such stock interest, I have concurred in and assented to the employment of counsel for such purpose."

In this adroit and subtly worded defence, it is attempted to conceal the fact that the stock interest is a controlling interest; but this weak subterfuge will not long have even the cover of a lawyer's cunning to conceal the real facts in the premises from the public!

Notwithstanding the fact that the lines of both the Western Union and Continental Telegraph Companies, through New Jersey, between New York and Philadelphia, were long since fully built and completed, and no possible necessity existed requiring any additional line for these companies, the Western Union, through the officers of the company it had purchased as aforesaid, by false representations to owners of property along the route selected by the American Union Company, went at the work of securing and tying up the highways of the State against the American Union Company, by paying money to the owners of property (wherever they could induce them to sign) for agreements purporting to give to them the sole and exclusive right to construct lines of telegraph along the public highways. A significant fact is that no effort was made to secure any such additional rights of way by the Western Union Company until after the American Union Company had commenced the construction of its line, and then only upon those highways where the latter company had located its route.

The opposition publicly manifested and brought to bear by the Western Union Company before the various city and town councils along the line of the American Union Company, and its employment of expert lawyers throughout the State, to search out and endeavor to find possible legal objections from the very State laws under which its own lines had been built, forms another interesting branch of the controversy, and tends to show how bitterly such a monopoly will fight against a competitive rival!

But the masses were on the side of the new and formidable rival of the monopoly, and to this is due the fact that it was enabled to finish its line, now complete and working. The opposition has been entirely confined to those connected with the Western Union Company, or bought with its money. The contest is purely one between monopoly and competition. The former has become desperate, and resorted to criminal acts in its futile struggle to continue to maintain its supremacy. It has endeavored to keep the fact of its purchase of the Continental Company from the public, and mask itself behind the purchased title, but it is now being rapidly stripped of even this thin covering, and must soon shoulder the full results of its work. Its violent warfare upon the American Union Company has served to inform the public what a powerful rival it has in the field, and to draw to the new company their sympathy and aid.

One of Andrew Johnson's messages was stolen, and Senator Logan, of Illinois, objected to its being read in the House because it was simply a communication from the morning papers, signed by the President.

Military Telegraphy.

Success in war depends on many factors, and not the least important among these is time. Time to convey orders, time to receive information, time to move troops, stores, etc., is so essential that the ability to obtain a few hours, in some cases a few minutes, more or less, makes or mars a well-planned scheme. No civilized nation exists but has provided means for rapid communication for commercial and home purposes, and has generally provided a more or less complete telegraphic system for troops in the field. Generally, the telegraph is used merely as the connecting link between the base and the front, but its use is advocated on the field of battle itself. In bygone days—far, however, in the misty ages of romance—orders must all have been given on the battle field by word of mouth. This verbal usage gave place to pre-arranged signals by means of trumpets or horns, a method of conveying orders over a limited area in extensive use at the present day. Communications over longer distances were made by means of flags, and so on, but all these methods seem destined to give place to electrical apparatus. One obvious objection to "bugle" or similar sounds on the battle field is that enemies as well as friends can interpret the sounds. This fatal objection must also be made to flags, and hence it seems an absolute necessity that the actual order should be given verbally, inasmuch as there is less danger by the use of such means of the secret being known to the enemy. As we have previously said, much depends on the time taken to deliver an order. An aide-de-camp may gallop from one part of the field to the other, but it takes time—and time, too, at a period when the manoeuvres wanted must be executed to the minute to be effective.

The electric telegraph was used in the field so long ago as 1853, at the siege of Olmutz. In the war of secession the Americans used upward of 8,000 miles of telegraph line for military purposes. During Sherman's celebrated march, his headquarters were generally in telegraphic communication with his base daily, within two hours of halting. The lines were first worked under fire on the field of Fredericksburg. "Constant and reliable use was made of the line during the battle." In the Crimea, in Ashantee, in the Zulu campaign, in Afghanistan, etc., the telegraph has been more or less used by English troops. Its most extensive use, however, seems to have been by Lopez in the "Paraguayan War." Another and very successful example can be taken from the recent Turko-Russian war in Asia Minor: "In October, 1877, the Russians decided to cut off Muktar's communications with Kars and Erzeroum, and thus, by threatening his front and rear, make his strong position untenable. General Lazareff was detached with this object, in command of 27 battalions, 40 guns, and 6 regiments of cavalry. Marching south, down the Arpa Tschar (River), he passed Muktar's right flank at Kotchiran, turned to his right to Dighur, and thence marching northwest, made the Ogur Hill and the village of Vezinkoi, fortified by the Turks, his objective; and thus planted himself right on Muktar's communications. Now, what was it that made possible and rational this division of an army in the presence of a powerful enemy? What prevented Muktar from crushing each portion in succession, as was evidently his intention, by his having immediately sent a large force, under Reshid Pasha, to attack Lazareff? It was that, along the forty miles' march of that general a reliable telegraph line had been constructed, which only once, and that for but two hours, was interrupted, and which, at 3 A. M., on the 14th of October, conveyed a message from Lazareff to the Grand Duke that Muktar was in front of him with a stronger force than his own. Thus, as it were, placed face to face with his subordinate forty miles off, the Commander-in-Chief held his enemy in his hand. One small telegraph wire was round the neck of the Turk, and he could not escape. The combination was perfect, and the orders to attack on each side were simultaneously carried out, with the result of the fall of northern Armenia."

The tapping of a telegraph line, by means, say, of a Morse sounder, and the *deceiving* of the original senders, is an exceedingly difficult task, but the tapping of a wire by means of a telephone to learn the messages passing to and fro is very easy. Indeed, the introduction of the telephone has made it all but impossible to keep secret the work of the wire. In the case of orders in the field there is, of course, little or no chance of an enemy being able to tamper with the wire, or even if a spy could obtain access to any portion, there would be no time to use the information obtained, except at a great

risk. Suppose that the tapping of the line is not so difficult a matter, it is easy to obviate all danger, even with the ordinary instruments, by using cipher messages. We have, however, in such systems as that of D'Arlincourt, and preferably that of Cowper, an easy means of overcoming the difficulty. No telephonist could interrupt a message sent by Cowper's writing instrument, and thus we venture to say that almost absolute secrecy can be promised to messages, so far as tapping the wires is concerned. Time will give more facts as regards this particular use of electricity, and till then opinions on this point may be withheld.—*Electrician*.

Telegraphic Matters before the Canadian Parliament.

Notices are given in the *Canada Gazette* that an application will be made to the Parliament of Canada, at its next session, for an Act to incorporate the Canadian Telegraph Company, and to confer upon the company so created and incorporated corporate rights, with power to build lines and lease other lines, and to carry on the business of telegraphing in Canada and elsewhere; for an Act to incorporate the French Atlantic Cable Company and to create the "Compagnie Française du Télégraphe de Paris à New York," and the shareholders in that company a corporation within the Dominion of Canada, under the name of the "French Atlantic Cable Company;" that the Montreal Telegraph Company will apply, at the same session, for an Act to extend the powers and franchises of that company to all parts of the Dominion of Canada, to allow it to make connections and carry on business elsewhere, and generally to grant to the company all such powers and privileges as are now enjoyed by any other telegraph company carrying on business in the Dominion.

The Direct United States Cable Company, limited (incorporated 1877), gives notice that it will apply for an Act to extend its corporate character to the Dominion of Canada, to enable it to perfect cable communication between Great Britain and the Dominion, and to revoke the letters patent of the Dominion issued on the 17th May, 1875, purporting to incorporate certain persons under the name of the "Direct United States Cable Company, Limited."

Notice is also given that application will be made for an Act to incorporate "The New Telegraphic Union," and to confer upon that company, so created and incorporated, corporate rights, with power to build lines, and to carry on the business of telegraphing, in Canada and elsewhere, at the specified rate of one cent per word; and, further, to confer upon the company power to amalgamate with any other company or companies, if thought necessary or desirable, provided the tariff or rate be not increased.

The Student Question.

I think I speak the sentiments of most of the operators on our line when I say that we are no friend to the manufacture of plugs and operators. But I am sorry to say that we have at present a superintendent of telegraph who is a friend of the student system. He has even forced an agent to take a student into his office and learn him as fast as possible, and the young man now holds a position as night operator at the munificent salary of \$25 per month. Our line is being filled with just such men. I have learned two persons in my experience in telegraphy, but I have determined that they are the last, and have refused several offers in the last two years to make myself rich by teaching students. St. Thomas, Ont., is the main plug factory, and the only one I know of at present on the C. S. Railway. I write to let you know that we are awaking to our best interests.

CANADA SOUTHERN.

The student question has so stirred me up that I cannot let it pass without saying a word. In the first place let me give you a little of my own experience. I was employed some three years ago in a certain Western Union office, to take press reports, keep the books, and do a good share of the every day telegraphing—the press reports always lasting five

or six hours—all this at the enormous salary of \$35 per month. In this same office was one of the plug craft, who, when he thought himself capable, offered to keep the books and do the daily telegraphing, (press excepted) for \$20 per month. What was the consequence? Why, simply for me to "take a walk." If men who will encourage, and keep on hand a supply of these would-be lightning manipulators, would get beaten out of their jobs once or twice, I don't see why the number of plugs would not grow surprisingly less. One other case and I am done: A certain railroad company, not very distant from this section of the country, has in active service an operator (?) of this plug degree. I happened to catch a conversation, only last evening, on the wire as follows: The dispatcher called up this sprig of the craft, and inquired of him: "How many cars No. — had." "This man in charge answered, "Yes, No. — is here." The dispatcher repeated his question, and the owl replied, "Yes, they have gone now." This servicable man receives \$33 per month for this valuable (?) information he furnishes. Is such a man a safe and reliable person to be intrusted with train orders for passenger trains? Why, wouldn't he be apt to reverse the route of the train, and send them to their starting point? I would not say all this, but that such a man is in actual service. It is hard for a man to get a position tending switch, unless he can operate, and then, by luck, he may get a \$53 job. The superintendents are willing to employ farm hands, as brakemen, at \$2 per trip, and allow these men to double the road, and make their \$4.10 per day. I envy no man for making what he can. But how about the telegraph operator? He applies for a \$33 night job, and lays himself liable to being helped hurriedly out.

Boys, we have it in our own hands. If we would not teach, nor allow these students in our office, they would not be so numerous. We could set our price, which I think \$50 the least an operator, I don't say plug, should receive, and so set the prices with amount of work to be done. We could laugh at a superintendent offering us \$35 or \$40. There are no grades, no system to paying operators nowadays. Why, in a short time, at this rate of proceeding, canal drivers will receive a salary that an operator would not dare ask. Pardon me, I fear I vex you, so I'll close saying that I never taught any one, and furthermore no living soul need apply to me for I will not do it. I remain in Western New York.

ONE INTERESTED.

Telegraphic Supplies.

There are few industries the extent and importance of which are so little appreciated by those who have never been "inside," as are the manufactures of the various supplies that keep in constant operation the multitudinous telegraphic communications throughout the country. Without the aid of statistics, it is hardly possible to comprehend the full growth of telegraphic intercourse, that has put Puck's girdle around the world, since Morse stood, without money or influence, at the doors of an unsympathetic and unscientific Congress. With every advance of railway progress, and ahead of it, springs the magnetic wire that carries instant speech across a continent, controlling armies and making and unmaking national destinies. The amount of machinery, instrumental equipments, and supplies of all kinds necessary to maintain this gigantic system of intercourse, foots up, in the totals, to figures that are enormous. All these supplies must be of the highest grades, to be fit for use; there can be no "rust" in the telegraphic service. To keep up and supply the wants of the world in these lines is the sole care of a few leading houses, the principal one of which in this country is that of Messrs. L. G. Tillotson & Co., Nos. 5 and 7 Dey Street, New York. Messrs. T. & Co. are manufacturers and importers of railway and telegraphic supplies of all kinds, and pay especial attention to the latter. They are in both home and foreign markets, and carry heavy stocks of everything necessary in the construction or maintenance of telegraphic intercourse. From a cable for the use of two continents to the neat little practical outfits for private uses, there is nothing that cannot be had at their warehouses. Especial attention is paid to the fitting out of complete lines, which can be done at short notice and in the most thorough manner. Estimates are freely given, and forwarded at once on receipt of specifications. The firm at present is engaged in filling several large orders for home companies and is shipping considerable quantities abroad. Messrs. L. G. Tillotson & Co. are sole agents in the United States for the celebrated galvanized telegraph wire manufactured by Messrs. Richard Johnson &

Nephew, of Manchester, England, the largest wire makers in the world. This wire is used by every line in the country, and all are supplied through this firm. They are also sole agents in this country for the famous Leclanche battery, of which there have been sold in Europe nearly a million cells, and nearly a quarter of that number in the United States. —*Boston Journal of Commerce*.

Mr. W. Cornell Jewett and the French Cable.

Mr. W. Cornell Jewett, it is well known, was the organizer of the Direct U. S. Cable Company, and also of the French Cable Company, the latter of which recently landed its cable upon Cape Cod. Mr. Jewett feels that he has been greatly wronged by the company and by some Americans with whom he has been working. In the first place, Mr. Jewett holds that the right to land here, alleged to be given by Secretary Evarts and not by Congress, is not a legal right, Congress alone having authority to permit such landing of a cable belonging to a foreign company. In the second place, it is urged that the landing of the cable on Sunday was intended to enable the company to avoid the processes of law which were known to be prepared in Boston to keep it from coming ashore. In the third place, it is said by Mr. Jewett's friends here that he is about to bring suit against the French company and Messrs. Siemens & Co., both here and in France, for violations of contracts, upon the ground that the cable was laid in violation of acts of Congress under which Mr. Jewett claims he has special privileges, and also upon the ground of breach of contracts made in France with Count Dillon, the Director General of the French company at the time of the inauguration of the Poyeur-Quartier Company in December, 1874. The Garretts of Baltimore are also involved in this matter. Mr. Jewett had a contract giving him control for cable purposes of the wires of the Baltimore & Ohio Railroad Company in connection with the cable act of Congress of 1877. The Garretts have gone over to Jay Gould's American Union Telegraph Company, and have given their wires to the French Cable Company as part of a land line to the West. Mr. Jewett will soon begin suits against the Garretts also for violation of the contract with him in this and other particulars. —*Washington Correspondent Philadelphia Bulletin*.

Curious Effect of Lightning

The following remarkable freak of lightning seems to me worthy of record: There was a severe shower, accompanied by vivid lightning and peals of thunder, in Salem, Massachusetts, August 6, 1879. A lady, while passing through a room in range of two open windows, was suddenly enveloped in a blaze of light from her feet to her waist. She was not in any way unpleasantly affected by it, but, from a sense of fright, threw herself on the bed beside a friend; both detected the smell of sulphur and of burned leather. Nothing more was thought of the matter till two days after, when the lady went to her dress, which had hung in a closet ever since the afternoon of the storm, to get her purse from the pocket. The purse contained eighty five dollars in greenbacks. What was her astonishment, when it was opened, to find the money gone, and in its place only charred fragments of the same, and ashes! The remnants of the bills were adherent to the sides of the central pocket in which the money was contained. Nothing was left of it sufficient to identify it as bills. The pocket of the purse in which it was held was surrounded by a rim of nickel, with a central clasp. The clasp was bent and blackened. The band was riveted on by two steel pins. A car ticket in an adjoining compartment of the purse was blackened; a silver half-dollar was blackened and also bent. The purse was not burned or marred externally, but there was a crisp burned spot at one end. The purse was in a cotton pocket between two woolen stuffs. It has been seen by hundreds, and by all it is considered a remarkable freak of this most subtle agent.—M. J. SAFFORD, in *Popular Science Monthly*.

Boston Notes.

The shake up among the telegraphic fraternity still goes on, and assumes lively proportions. Boston at last feels the influence of a rising and healthy opposition, and the giant monopoly realizes the fact that sliding scales and ill timed degradations are not sufficient inducements to retain operators when good positions at increased rates of remuneration are offered. Last week the committee on paving, of this city, considered the application of the American Union Telegraph Company for authority to locate its poles, and run wires through Boston to reach its headquarters, which, it is understood, will be located for the present, in the *Traveler* building; and, though the pressure from the old companies was great, to the credit of the committee be it said, that they did not sit down on the application, and the permission will doubtless be granted. The American Union has chosen Mr. Thomas Roche as New England superintendent; an admirable choice, as all who know him can testify. Telephonic matters are still moving. National Bell Telephone stock is daily quoted in the Boston market at all prices between 900 and 1,000. Mr. W. H. Forbes, the president of the Bell Company, has presented a petition to the General Court for the incorporation of a company "to do a telephone and telegraph business," with a capital not exceeding \$15,000,000. A telephone line between Boston and Worcester, a distance of forty-five miles, is contracted for, and is soon to be constructed. The longest line at present worked from the Boston Central Office is that from Boston to Lowell, which works satisfactorily, and over which press reports are daily sent.

On a recent visit to Waterbury, Conn., we were agreeably surprised to find located there, as manager of the Automatic Signal Telegraph, and Waterbury Telephone Companies, A. M. Young, well and favorably known to the profession as operator at Buffalo, New York, Syracuse, and other places, both for the W. U. and Atlantic and Pacific Telegraph Companies. He travels no more. He is married!

The Western Union Move.

In order to help the bull move in Western Union, the story was again circulated that the American Union Telegraph Company had been sold to the Western Union. We called upon one of the prominent owners of American Union and asked him what there was to the story. He replied that if any of the parties who were circulating these stories had any money to put up on the truth of it, that he would be happy to accommodate them to the extent of \$10,000, and that so far from the American Union selling out or being leased by the Western Union, that if there was ever any leasing it would be the Western Union leased to the American Union, but no dividend guaranteed in less than six months. It will be impossible to pay on Western Union large capital with the low rates that will be introduced by the American Union Company, whose policy is to make telegraphing as cheap as it can possibly be made and yet return 6 per cent. on its low capital. If this is done, the business that will pay 6 per cent. to American Union will pay only 1/2 per cent. per annum to Western Union. We have no doubt but that Western Union will declare an extra dividend of one per cent. next Wednesday, making 2 1/2 in all, and we have also no doubt but that it is done to help market the stock of the large holders before the opening of the new company, which is set down for Jan. 1st, as it would be very foolish to pay out the surplus just as they are about to enter into a severe fight with a formidable opposition, unless there was such a motive at the bottom of it.—*Wall Street News*.

A number of city governments in the South and West have recently tendered their business for five years to the American Union, provided the company extends its lines thither within a year, and establishes a rate not less than 35 per cent. below the present Western Union tariff.

An Improvement on the Phonograph.

Edison's phonograph, as now constructed, is in several important respects defective. For example, the time of recording the sound on the apparatus is proportioned to the size of the barrel. The necessity of wrapping the barrel with foil does not permit of the conservation of speech, and, by reason of its flimsy character, only allows of several repetitions. With a view of overcoming these drawbacks, a young French professor, M. Cusene Gamard, has, we are told, constructed a modified instrument, in which the speech is impressed along a straight, instead of a curving, line. This apparatus consists of a horizontal plate, upon which a series of chariots can be placed; movement is given by means of a rack fixed to their lower part and gearing with a toothed wheel furnished with a crank. At the centre of each of the chariots is placed at will a little copper rule, to which is attached a light leaf of copper or silver. Above this system is mounted the vibrating plate, furnished with its probe or stylus. On speaking into this new phonograph on putting the first chariot in motion, the voice engraves itself on the metal leaf; and it is only necessary to employ succeeding chariots in order to record the entire discourse. The second difficulty has also been overcome by M. Gamard, for the movable rules to which the metal leaf is fixed can be detached from the chariots supporting them. To make them reproduce the sounds which have been registered on them, it suffices to replace them in the apparatus. The substitution of copper or silver leaf for tinfoil renders the matrix capable of preserving the speech for a long time, and giving many reproductions. The rigidity of these leaves prevents their employment in the phonograph. M. Gamard's improvements are an advance toward the date when the Edison phonograph will cease to be a scientific curiosity, and become of some practical value.—*Telegraphic Journal*.

Old Timers.

It is all very well to talk about taking care of the old men, but when the old men are taken care of at the expense of younger, more ambitious, and abler men, then it is not well. The great trouble with most of these gentlemen is that they entered the business at a time when very little ability was necessary; when managers, superintendents, and, in fact, every one, was groping around, and doing the business in their own individual ways, without guide or compass. Those days have long since passed away. The business has grown. Systems more or less advantageous have been introduced. Everything is changed but these same old men. Their salaries grew apace, and are now too high for their abilities, though not for other men who are competent to do the work that they have to be extensively propped up to enable them to make a show of doing. They must be taken care of, no doubt, and it is very creditable to the company that they are so; but a little, a very little, observation, will convince almost anyone that the men who are to be found at the operating desk are often more capable of being in charge of the office than the parties who draw a hundred dollars a month, when they would be getting full value for their services at 30 per cent. less. This it is that causes so much dissatisfaction. These gentlemen cannot be pushed any farther forward, and they are stumbling-blocks in the path of others. This, of course, does not apply to all in such positions, but it includes a large majority. M.

Vice-President Van Horne Gone to Europe.

In consequence of impaired health, and to obtain relief and recuperation, Mr. John Van Horne, Vice-President and General Superintendent of the Western Union Telegraph Company, sailed on the 5th instant, on the Red Star line steamship *Switzerland*, for Antwerp. A number of the business associates and personal friends of Mr. Van Horne assembled on board the *Switzerland* to bid him farewell and express their earnest wishes for his safe voyage and return, with speedy and complete recovery. As the *Switzerland* passed down the bay, she was for a short distance preceded by the cable tug *William Orton*, on which Mr. Van Horne's friends had assembled, and as the steamship passed the tug, Mr. Van Horne was observed standing upon the paddle-box, and was enthusiastically cheered and saluted by all on board. For some months past the Vice-President has suffered very much from ill-health,

aggravated by the arduous labors imposed upon him by his official position, to which he has untiringly devoted himself, and to obtain relief and permanent benefit, his physician insisted upon his taking a sea voyage. He will also visit the German Springs, and expects to be absent some months.

Echoes from 197 and City Items.

We regret to announce that Mr. James H. Lyman died on Thursday, December 11th, and was buried at 1:30 on the 13th.

Some of the chief and brevet chief operators are beings who were evidently created for the purpose of inspiring operators with a longing for a better world hereafter.

Mr. James E. Stark has been appointed reporter for the Gold and Stock Telegraph Company, at the Stock Exchange, with good hours and first class pay, which, by the way, is well deserved.

The gas in the W. U. main office is lit by electricity. As fully one half the burners fail to work, the employes are treated each evening to the delicious perfume so grateful to cultivated tastes.

If Manager Downer doesn't interfere in behalf of his lady operators, Greenwood will soon be studded with gravestones bearing the plaintive legend: "Talked to death by the traffic chiefs."

Among the old time telegraphers who have again put in an appearance with us, are Miles O'Reilly and Asa Davis. Mr. O'Reilly is the author of "Beautiful Snow," and, as Mark Twain says, "he has added a new pang to winter."

The Dutchmen, when they came to New York, did not wrest the soil from the hands of its owners. They paid \$24 for Manhattan Island, like honest men, and then played pitch-penny with the Indians, and won it back. The same principle seems to govern the Western Union. Some of their operators were advanced during the late business boom, but the advance has been taken away again on one pretext or another.

G. W. Waldron died December 3d. He had been an employe of the main office for eight years, and his sudden death caused much regret among his former co-laborers. He had only been married six months. The funeral was largely attended by both New York and out of town operators. The pall-bearers were G. Clark, W. Williams, F. Cummings, and A. Walters. His widow has the sincere sympathy of the Western Union employes in her bereavement.

About fifteen first-class men left 197 Broadway during the past month. The salaries that were paid them by the W. U. Co. ranged from \$50 to \$65 per month. Twelve of the men entered the American Union service at salaries varying from \$75 to \$90 per month. The departure of Andy Creelman, Jimmie Bradt, and Fred. Wilcox is greatly regretted. The three gentlemen mentioned turn out beautiful work, "Jimmie" being a bright, particular star. The others, outside of these three, were comparatively new men here.

At a regular annual meeting of the stockholders of the Southern and Atlantic Telegraph Company, last week, the old board of directors was re-elected, as follows: Messrs. Norvin Green, Augustus Schell, William H. Abel, Roswell H. Rochester, Henry Hentz, Charles W. Blossom, Charles M. Fry, Arthur B. Graves and John W. Kirk. There were 20,950 shares voted upon. The treasurer's report showed a balance on hand of \$6,520 after the payment of certain obligations. The company practically has no finances, as its lines are leased by the Western Union Telegraph Company under a guarantee of five per cent. per annum on its stock. The small sum of cash on hand is the balance which was in the treasury when the lease was made, less disbursements on account of a few old obligations.

Edward L. Hebbard, the employe of the Gold and Stock Company arrested for forgery, as reported in last issue of *THE OPERATOR*, was last week indicted for grand larceny. When summoned to the bar of the Court of General Sessions, he denied his guilt. From the evidence adduced, it would seem that the accused had used the regular printed form of contract of the company, upon which he had already obtained the signature of Mr. Norvin Green, the president. On this contract were forged the names of Messrs. Lastrade and Doolittle, and the agreement being seemingly a proper one, a telephon-

ic apparatus was placed in the house of Lestrade & Doolittle. The accused had, however, still another agreement, by which it was stipulated that, instead of the customary payment of \$10 a month for the use of the instrument the sum of \$50 was to be paid, and with this agreement, he proceeded to the office of the firm as an accredited agent of the company, and secured the payment of the money. The ruse adopted by Hebbard was exceedingly ingenious, and on the trial, a nice point arose as to whether the offense was that of false pretences or grand larceny; but upon the adjudicated case of Loomis and Lewis, the Court held that the offense, if any had been committed, was grand larceny. The jury found the prisoner guilty, but, in consideration of his youth and previous good character, Judge Gildersleeve sent him to the State Reformatory at Elmira.

220 Messages an Hour!

Thinking that anything pertaining to fast telegraphy would interest your readers, I give you the following, believing it worthy of notice. During the late rush of business in this section, the subject was agitated among the boys in this office, namely: Was it possible, during a big rush, for one man to send 1,000 messages during exchange hours, 10 A. M., to 4 P. M.? To some the idea seemed absurd; to others it did seem possible, yea, quite probable. In lieu of such an undertaking, Ed. Keene expressed a desire to try it for one hour on the following Sunday, so as to form some idea of what might be done during the five hours. The experiment was made last Sunday, between 11 A. M., and 12 M., Mr. Keene sending 220 messages in that time, one hour. Forty-one messages were sent in the first ten minutes, and 120 in the first half hour. The messages were not copied by any one, but were carefully counted and overheard by competent judges, who claim that the sending was up to the average of his usually perfect Morse. The wire selected was the Parker Duplex (Keene's regular wire), and the messages sent selected promiscuously from the Parker business of the preceding day, which averaged ten words per message. Mr. Keene is anxious to make the attempt to send 1,000 messages in five hours. "J."

OIL CITY, PA., Dec. 5th.

Premiums for Clubs for the Operator.

For 2 yearly subscriptions we will send, postage prepaid, 25 Telegraphers' New Year's Cards, with name; or copy of "Oakum Pickings" (paper).

For 3 yearly subscriptions, a copy of either "Wired Love," or "Sam Johnson."

For 4 yearly subscriptions, "General Grant," or THE OPERATOR one year.

For 5 yearly subscriptions, "Lightning Flashes," or "Christmas Evergreens."

For 10 yearly subscriptions, both "Lightning Flashes" and "Christmas Evergreens."

For 15 yearly subscriptions, "Lightning Flashes," "General Grant," and THE OPERATOR one year.

For 20 yearly subscriptions, all six books bound in cloth.

For 22 yearly subscriptions, all six books, and THE OPERATOR one year.

For 60 yearly subscriptions, a first-class gentleman's solid silver H. C. watch.

For 160 yearly subscriptions, a first-class gentleman's solid gold H. C. watch.

A FEW years ago it used to be considered next to impossible to secure a verdict against the Western Union. Lately, however, the company seems to be in hard luck. Decisions against it is the order of the day. A telegram from Chicago, dated December 4th, says that the motion on the appeal of the Western Union Telegraph Company to vacate the order of the Court directing that company to turn over to the American Union Telegraph Company all the lines and property of the Great Western Telegraph Company, which order was made on Monday, December 1st, was argued December 3d, and refused. The lines and property of the Great Western Telegraph Company will, therefore, come into the immediate possession of the American Union Telegraph Company. This is another victory for the new company. The Western Union subsequently appealed the case to a higher court, and a hearing is to be had this week.

Words of Encouragement.

I don't know when my subscription for your valuable and interesting paper runs out, but please bear in mind that I never wish to have it run out. Consequently, advise me when I must remit for another year's subscription, and oblige J. J. A.

Inclosed please find \$1.00 to renew my subscription for 1880. I'd gladly give six times the amount could I receive the paper six times oftener. I consider it a valuable paper. It is "Friendship with all and malice toward none." I would not be without it now. F. W. D.

You are doing a noble work for the good cause, and we appreciate your earnest efforts to elevate the profession, and make men out of the sluggards. We are heartily glad, too, of the success that has attended your enterprise, which has steadily grown from an unpretentious beginning to its present robust standing. The paper is well worthy of our highest praise, and should be the pride of every operator in the land, as it is desirous to be. I have not been without it since I secured one of the first issue you published, being in New York at the time. There are "moss backs" and plugs in the profession who never will be educated up to the times, but you have the hearty support of all the best men in the business, and no operator who is possessed of an average amount of brains and common sense, and who has any manhood in him, will be without the paper. Shall do all I can for you.—E. A. S.

PERSONALS.

Mr. T. O. Hurst is agent and operator N. & N. W. Rys., at Cheltenham, Canada.

Mr. J. Munro, formerly editor of the London Telegraphic Journal, is now connected with the Electrician.

Mr. W. K. Applebaugh, a well-known telegrapher, has been elected president of the Brooklyn Athletic Club.

Will Rufe, C. Dempsey, operator, P. C. & St. Louis R'y, who orders New Year's cards, but does not give his address, please furnish that information. We also desire Mr. Lanskill's address.

Mr. John J. Auger, formerly well known to the telegraphers of Milwaukee and on the North Western lines, is now proprietor of a flourishing lumber, coal, and brick yard at Sacred Heart, Minn., and making money rapidly.

We have received the words and music of another song and chorus, by Messrs. W. H. Parson and E. E. Todd, respectively. It is called "Husking Corn," and is one of the series known as Electric Lights. Published by W. W. Whitney, Toledo. The price is 30c. Gibbons & Stone, of Rochester, have published a march by Mr. Todd, called the "Champion" march.

The friends of Clarence J. Histed, formerly of North East, Pa., are very anxious to learn of his whereabouts. He worked in June, 1877, at Nottingham, O., and in July, 1879, on the C. C. & I. R'y, place unknown; is eighteen, but large for his age. Any information concerning him will be gratefully received. Please address "Operator," Box 126, North East, Pa.

The decided "hit" that the Telegrapher's New Year's Cards for 1880 have made is attested by the fact that within the past week we have received orders for very nearly two hundred packs of the cards, as many as fifty reaching us in one day. The orders come from every section of the Union, as well as from Canada, and all are unanimous in praise of their neatness and beauty, and in saying that no telegrapher should make New Year's calls without them. We cannot spare the time to mail any more samples; but those desiring a handsome telegraphic New Year's card at a low price need not hesitate a moment about ordering, as they cannot fail to please them. Order early, and write your name distinctly.

Mr. Jim Reynolds, a well known telegrapher, who at one time enjoyed the reputation of being the finest operator in Canada, has just died at Montreal. He had lately returned from San Francisco, Cal., where he contracted a severe cold, which, in addition to lung disease, caused his death, at the age of twenty-nine years and eight days. The deceased was well known in the United States, and, six or seven years ago, was considered one of the best

operators in the New York Western Union office. He was the first operator in New York to work duplex to Boston. He was one of a family of seven brothers, all telegraphers, the remaining six now holding responsible positions with the Dominion Company of Canada.

TORONTO, ONT.—The Dominion Telegraph Company have just received a cable from England, which is to be laid across the straits of Canso, and a land line across Cape Breton will connect with the new French cable just landed. The secretary of the American Union, Mr. I. S. Clark, is in town just now. He is inspecting the principal offices of the Dominion Co. The telephone warfare is raging furiously all over Canada, except in this city and in Hamilton, where the companies, though using the Bell telephones, are quite independent of either company, and work harmoniously with them. It is understood that Mr. A. M. Bell, of Brantford (father of the inventor), has sold the Canadian patents to the National Bell Telephone Co., and the transfer will be made at an early day. Mr. Alexander Graham Bell was here a week or two ago, on his way to Brantford to visit his father. He has since gone to Washington.

MONTREAL.—We have a very efficient staff of operators here in the Montreal office. The operating room is under the careful guidance of Mr. J. R. McPhie, assisted by Mr. John S. Mackenzie and E. T. Nurse as chief operators. The following are a list of the old timers: Joseph R. Duggan, who looks after the Boston wire; Alick McNaughton, of the New York wire; W. C. Cherry and James Clandinan, who run "Bu" and "De" wires respectively; Louis Meloche and Tommy Rodgers, who manipulate the Toronto duplex; R. J. Fennie, day press-reports man; Geo. S. Turner, Ottawa duplex; and Messrs. Lanskill and Nurse on St. John, N. B., duplex, all "old timers." We have also Ed. McConnell and Johnny Wilson on the Quebec duplex; Ben Heritage on the Ogdensburg wire, and "Larry" Longmore on Portland, Me., wire. "Larry's" copy is said to be the finest on this side of the St. Lawrence River, although an old man. He has been here about twenty years. The night men are under the charge of Mr. James Kent. Geo. W. Jolly copies night press and Buffalo report in first class style. The rest of the night staff comprise A. A. Wyllie, Healy, and the Graham brothers. We have some very good lady operators here, too, namely: the Misses Urquhart, Miller, McLeod, McNider, and Darrah. Besides the above mentioned operators we have Guilett, Morre, Jennings, Pier, Cormier, and Rinet, all good men. We all wish you and your readers a merry Christmas and a happy new year. SHAMUS O'BRIEN.

CHICAGO M. AND ST. P. R'y, RIVER DIVISION.—Everything is lively on this line. The wires are crowded to their utmost capacity. At Minneapolis our genial dispatcher, Mr. H. R. Williams holds forth, ably assisted by Messrs. Fowler and Diehl. Messrs. Williams, Chase, and Ross Tipp hold St. Paul in good shape, with Ira Edwards as owl. Mr. Fowler, Jr., is at Newport. H. V. Peterson, just from the South, is agent and operator at Langdon. Messrs. Giles and Barry are at Hastings; Johnny Olson still clings to Etter as agent and operator. G. H. Dodge is at Frontenac. Messrs. Glover and Keith are at Lake City. Charles H. Chrouse, the left-handed man, at Read's Landing. G. H. Jones, with Mr. Townsend, holds Wabasha office down in fine style. C. H. Coleman is at Kellogg. H. J. Hancome at Weaver. Messrs. Hughes and Mason at Minneiska. Messrs. R. R. Ritchie and Burton at Minnesota City. J. L. Talmage is at Winona with Mr. F. J. Wilson, the new married man, as night owl. G. A. Sainsbury, with his able assistant, Mr. Crow, at Lamaille. Mr. D. C. Sheehan, late of Red Wing, has been transferred to Dakota, vice J. B. Neel, resigned. Frank W. Towne holds forth at La Crescent Junction. Good A No. 1 operators are in demand; none others need apply to our dispatcher. Boys in this part of the country are glad to hear of the progress the American Union is making, and are in hopes they will stretch their line in this part of the country. G. M.

MARRIAGES.

SMITH—WARNER.—On Wednesday, November 26th, at the residence of the bride's father, by the Rev. J. W. Sackelford, Alden A. Smith to Elizabeth W., daughter of Benjamin W. Warner, Esq., all of New York.



The Telegraph Wires.

FROM "CHRISTMAS EVERGREENS,"
THE WIRES LOQUENTUR.

HURRAH for the veins of the country,
Throbbing with fiery blood!
Hurrah for the wires that carry the thoughts
Of the city's multitude!
The gleaming rails are the sinews
That sway the strong right hand,
But the wires carry the heart-blood thoughts
Across the busy land.

We're at home in the pathless prairie;
We're at home in the solemn woods,



Where the red fox patters over red leaves,
And whirs the partridge brood.
Then away across the sunset land,
By homesteads mossed and gray,
The march of the lessening telegraph wires
Goes into the reddened day.



THE WIRES IN PEACE.

We start from the busy city,
That throbs to the rush of feet,
Where the hurrying army of trade
Goes rushing down the street.
We pass the white-walled cottages
Where the pleasant sound of bees
Crones the sultry day to sleep
In the clover under the trees.



THE WIRES IN WAR.

We march in the van of the army
That rolls to the far-away fight,
When our banners glow with the presence
Of the God who strikes for the right—



Past the pickets that sternly stand
Each on his lonely post;
And the moonbeam shimmers on the tents
Above the sleeping host.
We see them march to the battle,
And our veins are big with pride,



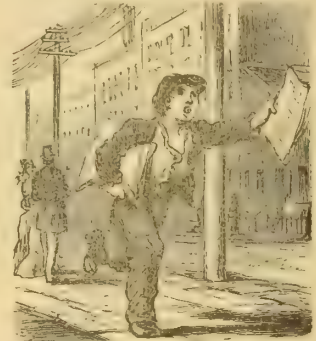
When the blue coats stoop to the shower of lead
That rains from the mountain side,
Till the battle is white with smoke;
And over the wild unrest
Stream in fierce joy the burning stars
Of the land we love the best.

We hurry, hurry homeward,
When the long day's battle is done,
With news of a great one fallen—
With news of a great fight won.
Where women watch with weary eyes,
And little children wait,
Under the musical sycamore
Down by the garden gate,



And down in the office, from white lips
Faint breath comes quick and short
When the sounder clicks the list of killed
In the afternoon's report.

Crowds are choking every street,
And great bells boom in stately towers;
Flags flutter out on smoky roofs—
After the battle joy is ours;
Joy on the land, joy on the lake,
Where a hundred ripples of sunshine laugh;



And joy where the ragged newsboy shouts:
"Great news by telegraph!"

THE WIRES UNIVERSALLY.

We bring glad news to inland homes,
Of ships upon the sea;
We hurry along the murderer's trail—
His Nemesis are we.



We watch all night the roaring trains,
When the sleepless sounder clicks
A caution for Number Seven Past
To wait for Number Six.

We are knitting land to brother land,
And hurrying on the day
When the clouds above the glorious stars
Shall all be rolled away;
When the people shall learn war no more,
Nor again the cymbal clash,
And all the nations speak one speech—
The telegraph dot and dash.

Dashes Here and There.

Mr. Edison still insists that his electric light is a complete success. He intends celebrating Christmas Eve by illuminating his village of Menlo Park, New Jersey; after which he will turn his attention to New York.

A report came from London last week that the Anglo American cable stock was in demand, owing to a report of some defect in the new French cable. The officers of the latter company, deny, however, that there is any defect, and say that the lines will be open for business shortly.

The Atlantic and Pacific Telegraph Company is curiously misnamed. It does not extend to the cities on the Atlantic seaboard, and does not reach to the Pacific. The name reminds one of the celebrated Boston, Barte and Gardener R. R., which did not start from Boston, did not go to Gardener, and did not stop at Barre.

Mr. William H. Vanderbilt has ordered a new clock connected with an electric apparatus at the Albany depot to be placed in every depot between that city and the Grand Central Depot. After the clocks are once put in order they will be set by an operator at the Albany depot, who can regulate all clocks on the road at his pleasure. These clocks and attachments are to be placed in position in a few days.

To every person sending us another yearly subscription in addition to his own, and \$2, we will send; postage pre-paid, twenty-five telegraphers' New Year's cards, with name, or a copy of "Oakum Pickings," as a present. Every present subscriber sending in his renewal, can get at least one other to accompany it, if he only tries. This would be a wonderful assistance to us, and would enable us try still further improve the paper. Let every one try it, and see what he can do.

A pack of twenty-five telegraphers' New Year's cards, or a copy of "Oakum Pickings," will be mailed, postage prepaid, to every person sending us another subscription to THE OPERATOR in addition to their own; both for one year. There will be no difficulty in doing this, while the increase of subscribers will enable us to expend more toward improving the paper. Let every one send us at least one subscriber, new or old, in addition to his own subscription for 1880. See premiums for larger clubs in another column.

CHRISTMAS EVERGREENS is the attractive title of a splendid volume of choice English and American poetry, compiled by W. J. Johnston, the well-known publisher and editor of THE OPERATOR. It is beautifully illustrated, and will, we think, prove one of the most popular gift books of the season—a gift book, as the compiler says in his preface, entertaining, instructive, and of permanent interest, and furnished at a price very much lower than works of this character are usually sold. It contains some of the most perfect gems ever wrought out of the English language; among them are Paul Revere's Ride; Oh! Why Should the Spirit of Mortal be Proud? and the Deserted Village. The book is worthy of all praise for its exterior and typographical appearance, and reflects credit on the publisher. It is just the book to present to a person of taste for a Christmas or New Year's gift. Octavo, heavy tinted paper, cloth, half gilt; price, \$1.50. W. J. Johnston, publisher, New York.—Clyde, N. Y. Times.

Reductions in Price!

Third Edition of the Spicy, Attractive, Entertaining, and Popular Work,

OAKUM PICKINGS.

A Miscellaneous Collection of Stories, Sketches, Essays, and Paragraphs, Telegraphic and General, contributed from time to time to the Telegraphic Papers, New York Graphic, Hearth and Home, Danbury News, and other first-class Journals, by Mr. Walter P. Phillips, Assistant General Agent New York Associated Press, under the nom de plume of John Oakum, with a fine Steel Plate Portrait of the Author.

Third Edition, 188 pp.; Medium 12mo; Full Cloth, 75 c.; Paper, 50 Cts.

The demand for copies of OAKUM PICKINGS has been so great that already two entire editions of the work have been sold, and still, like Oliver Twist, the Telegraphic fraternity calls for more. So many requests have reached us for an edition of the book at a price which every Telegrapher in the land can afford to pay, that we have now issued OAKUM PICKINGS, printed on paper equal in quality to that used in the best edition, with a steel-plate engraving of the author, and substantially bound in strong paper at the very reasonable price of Seventy-Five Cents a copy. The printing, binding, and general appearance of the book is acknowledged by both telegraphers and public to be of the very neatest and most tasteful description, while both individuals and newspapers agree that its contents are of an unusually amusing, lively, humorous, and thoroughly interesting character.

The enthusiastic and very gratifying welcome accorded this, the first book ever published with the object of giving the telegraph profession a literature of its own, has been so general and hearty on the part of both telegraphers, press, and general reading public in all parts of the country, that the publisher, in preparing the third edition, now ready, has been encouraged to make numerous important additions and improvements at increased outlay, which it is believed, will make the book a still greater favorite, and secure for it an even more extensive circulation and appreciation.

Mr. PHILLIPS, the author, is so well known to the fraternity as a spicy, original, witty, entertaining, and popular contributor to the current telegraphic and humorous literature of the day, and his character sketches of "Jim Lawless," "Tip McClosky," "Posie Van Dusen," "Cap. De Costa," etc., have won for him so enviable a reputation as a humorous sketch writer, that this opportunity of possessing a copy or his very choicest writings—the cream of his contributions to the telegraphic and general press—in one handsomely-bound volume, at a remarkably reasonable price, will, we feel certain be considered a rare treat by many hundreds of telegraphers and others who have made his acquaintance through these sketches.

CONTENTS OF OAKUM PICKINGS.

The book is divided into two parts. Part first contains 127 pages, embracing sketches, stories, essays, etc., each having a separate title, while part second, from page 128 to the end, contains thirty-three MINOR PARAGRAPHS, or short articles without titles. The contents are:

Love and Lightning,
Old Jim Lawless,
Thomas Johnson,
Cap De Costa,
Uncle Daniel,
Summer Recreation,

Little Tip McClosky,
Stage Coaching,
Posie Van Dusen,
The Blue and The Gray,
An Autumn Episode,
An Old Man's Exegesis.

Block Island,
Bad Medicine,
The Bloodless Onslaught,
Statistics,
Departed Days,
Minor Paragraphs.

What the Newspaper Press have to say of "Oakum Pickings."

Highly amusing.—N. Y. Times.
Bright, witty, and full of humor.—Publishers' Weekly.
Short, realistic, lively sketches, illustrative of his own profession.—N. Y. Tribune.

The stories are short, bright, well written, and possess a flavor of originality really attractive.—N. Y. Telegram.
The book is made up of short, lively, clever, amusing, and very readable sketches. No book recently issued is better adapted to while away a tedious hour.—New York Dispatch.

There is not a dull page in the work.—Telegrapher.
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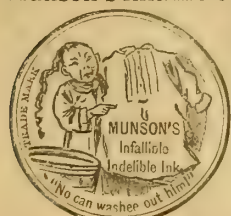
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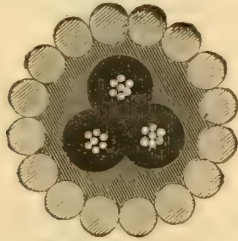
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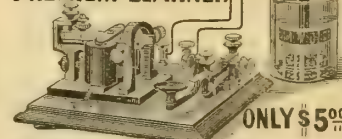
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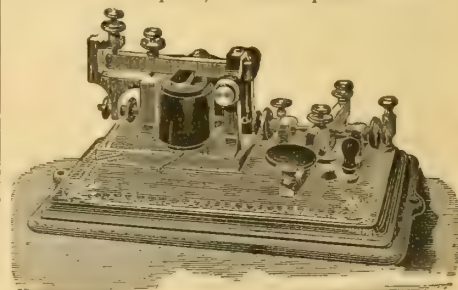
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